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"DISSOCIATION OF THE PERSONALITY."

By Dr. Axel Emil Gibson,

Los Angeles, Cal.

In the September number of the Dietetic and Hygienic Gazette Dr. James G. Kiernan, of Chicago, publishes some interesting statements bearing upon the above fascinating subject.

While there can be no doubt of the author being a thorough scientist—learned, painstaking and sincere—yet the issues involved are so rich, and their application to practical life so ominous and far-reaching that a further examination of the incidents brought to light through his discourse cannot be without its due justification.

The value of Dr. Kiernan's investigations, however, is somewhat impaired by his failure to pursue the ascertained incidents of his subject to their logical consequences, regardless of current theories and authorized statements. Thus, in conformity to the bulk of modern scientists, Dr. Kiernan holds to a mechanical-materialistic explanation of the human problem, and hence appreciates the entire nature of the human being, with its staggering complexity of thought, will and feeling, as constituting a mere mechanic, though ingenious system of checks and levers, automatically opening and closing, either to let in or shut out psycho-mental impulses, "depending for their logical correlation on the accuracy of the connection of the projection areas with abstraction areas." . . . In other words, that every impulse arising in the mind is self-generated, receiving its origin and life from physiological processes, and thus constituting the sole adjusting and controlling energy which has conducted the biological and historical unfoldment of thought, will and feeling—in any form of genius, aspiration or inspiration—from the intelligence of Plato and Seneca to Shakspere and Goethe; while "the factor assumed to secure balance between associations is termed will or volition, which is an effect, not a cause." And furthermore, "this final act of consciousness results from co-ordination of states, conscious, subconscious or unconscious—purely physiologic—finding expression in action or inhibition."

As seen from the above citations Dr. Kiernan proceeds in his argument from the standpoint that the mental and spiritual forces of man, not less than the physical and vital, spring from the food he eats, the air he inhales, the liquid he drinks, and the general hygienic condition of his sleeping and working apartments. And furthermore, as the presence in most human lives of spiritual and religious ideals, from a purely physiologic-chemical point of view, would be somewhat difficult to account for, the latter are reduced to mere pathological states of consciousness, arising from disordered vegetative processes—or, in Dr. Kiernan's own words: "the conscious mental process back of the religious ideal indicates an imperfection of the cerebral organization, and the presence of an unusual activity which deranges the equilibrium of the innate, previously acquired automatism." Which again leads to the logical consequences

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contained in Dr. Kiernan's further statement, that "the religious and sexual-emotional states, at the height of their development, exhibit a harmony in quantity and quality and can act vicariously." As to the evolution of the individual from lower to higher states, Dr. Kiernan finds the entire process accounted for in the statement that "the forebrain acts as a check on the purely vegetative functions," and consequently equipped with power to inhibit or exhibit the play of moral consciousness, duty, devotion, self-renunciation, altruism, courage of truth, etc.—and the entire group of feelings and emotions which some thinkers have termed immortal virtues. As long as this checking mechanism of the forebrain remains intact the individual is in good moral standing, but if a lever should slip, or, to quote Dr. Kiernan: "if this checking influence be weakened, disordered predominance of instincts or egotistic impulses may occur." And thus in conferring on a few "physiological checks of the forebrain" the power to generate and adjust the religious emotional states—their harmony in quantity and quality, etc.—Dr. Kiernan unavoidably implies that the sole arbitrament of man's moral and spiritual nature; the awe-inspiring power of building or wrecking human character and destiny, is poised on the mechanical adjustment of these checks and the smoothness of their leverage. This implication in itself renders the whole argument immoral and impossible. Like the dogs of *Acteon* in the legend, these tyrannous "checks of the forebrain" tear up and destroy their own master. The individual stands powerless and helpless before the uncontrollable despotism of the processes at work in his "mental physiology." Without the presence of an umpire over his moral issues; without the benefit and saving genius of a causation extended to moral processes, while his reason and judgment are regulated by the assimilation of his food or the circulation of his blood—the man for his moral nature, character, religion, genius, civic virtue, etc., depends on the ever-shifting play of arbitrary elemental forces. For the same motiveless, unreasoning necessity which, "if the checks be lost, turns an individual into a criminal, a parasite, who not only lives on his own host but betrays him in so doing;" on the other hand, if the action of the involved physiological levers be reversed, will result "in isolation, quietism, reverie, self-abnegation, abolition of the personality. annihilation of the will, amounting sometimes even to poetic and religious ecstasy."

Thus in Dr. Kiernan's philosophy the very force which annihilates the human will may form the condition and basis for poetic and religious ecstasy—the development of highest poetic and religious powers. As if such thing was possible: religion without will! Can we conceive of any position where a strong will is more urgent than in the life of a religious devotee? For is it not true, that the overcoming of personal temptation, the vigorous and victorious resistance to the selfish, instinctive brute force residing at the bottom of the savage, passion-governed man, means the triumph of culture and manhood, and calls into action all that is strong and virile, and of eternal survival-value to the individual? Can we think of a truly religious man indulging in low gratifications, governed by passion and greed? For is it not the subordination of personal, selfish interests to the interests of the commonweal, that characterizes the religious life?—and what but an iron will and an unbudging determination can succeed in mastering this elemental, non-reasoning savage force, and conduct it into the larger field of a sympathy and humanizing motives? In fact, if considering the matter from a historical point of view, are we not forced to concede that the whole moral evolution of society—embracing all that is of worth and value to human culture and to the ascent of life—is based and balanced on the fortified and purified human will! For what constitues character but the power of the man to lift himself from the general level of vegetative instinctive life to eminences of ascending individuality and self-consciousness, what the Titan-lever used in this ascent, but the force of the concentrated human will? And if religion, especially in its ecstasy, does not stand for moral purity and elevation of character it is a misnomer, and stands for nothing.

What is true of will in its relation to religion is not less true of will in its relation to genius—which is but another term for what Dr. Kiernan calls "poetic ecstasy." For with what other term are we to define the nature of that Titan-force which sustained a Tennyson, Milton, Schiller, Browning, Whitman, Emerson, and all the rest of those "ecstatic" minds, riveted at their writing-desks, hour after hour, day after day, year after year, defying the promptings of the natural man for sleep and food while consumed by the fires of inspiration and creative energy, in passing through the birth-givings of ideas and soul-stirring, world-heaving realizations—children of immortality—that survive the levelling changes of time and space, as they illumine with their never-fading light the pathways of the higher evolution for the coming and going generations in their search of truth and happiness, of beauty and of love? In what other terms but the power of the human will, liberated from the narrowing, circumscribed, egoistic instincts of the purely personal, animal life? While, on the other hand, is it not in the failure of the man of the "poetic and religious ecstasy" to control his sense-governed brute nature that forms the bases of the breakdowns and degeneracy we so often witness in the ranks of those of high aims and promise. Will—individual or universal—is the driving-wheel of spiritual and moral evolution, the fashioning genius of art and the executive power of civic virtues; while its absence as signature to any individual action at once indicates the insolvency of individual character and its subsequent mental, physical and moral breakdown.

The cases cited by Dr. Kiernan from experiments of Jacobi, Lasegué, Magelhaes, Dr. Prince and others, do not in any way justify the view held by Dr. Kiernan himself regarding the material basis of consciousness, and the hopeless resolution of individual identity into self-generative, self-sustaining and self-degenerative physiological processes. Thus, for instance, the case of M'selle Christine L. Beauchamp, who is reported to have changed her personality from time to time with its moral coloring and mental endowment involving the entire makeshift of ideas, temperament, taste, etc—so far from proving the individuality of that young lady to be a mere heterogeneous product, will-lessly depending on conceptions received from sense-impressions and held together by "automatically inhibiting or stimulating checks"—dissociated from any cohesive, adjusting center of intelligence (as is the theory of Dr. Kiernan)—this case simply introduces *prima facie* evidences of changes and processes unfolding in the unexplored depth of human nature, and consequently indicative of the active presence in the latter of a moral, adjusting center of life, force and intelligence from which the homogeneous stream of consciousness wells up to assume its multiplicity of ephemeral aspects of life in the course of evolution. For, no matter how complex and unique, the lines of the entire sweep of manifestation of life can be logically traced back in the one or other of the three primary states of consciousness: thought, will and feeling. Thus, wherever sagacity, ingenuity, constructiveness, etc., manifest as powers in the individual mind, it at once suggests the active presence of thought; again, where sentiment, emotion, moral coloring confront us we are dealing with some aspect of feeling; while, finally, in the exhibition of force of character and determinative power of mind, we unmistakably recognize as the mainspring and root of the movement the operation of the human will.

From this simple index of consciousness in its triple aspect of manifestation there can be no logical escape. When M'selle Beauchamp shifted ideals she merely exhibited the power of feeling in a new aspect of consciousness, due not to changes in the feeling itself, but to pathological developments in the psychic centers of the vertical areas and associated tracts, which form the means but not the basis of an emotion—the instrumentality, not the generative factor in the mental movement involved. Similarly the changes we observe in her personal character do not spring from will as such—will as basic elemental force, but arise in the corresponding psychic of the volitional department in the cerebral tissues. Consequently, the mental changes observed in the psychically aberrated personality of the French lady are not due to changes in self-consciousness *per se,* with its eternally changeless center of unity and egoity which persists in perfect integrity during all phases and conditions of life, but are due to changes in the sensory perception of selfhood—in the mode and manner by which the ego appreciates itself as a center of personal self-consciousness. Whether sick or well, old or young, the individual in some form or other retains the sense of self-realization or the *feeling of I am.* Like the rays of the sun which in passing through different media or substances may give use to different lights and colorings, while yet retaining their undisturbed and unchanged sun-nature; so in a similar way the center of sun of individual self-consciousness—the timeless root of egoity or self-realization, remains eternally intact, while transmitting through the media of changing personalities the germs of thought, will and feeling, which, under the auspices and adjusting power of the individual mind, become developed and unified into corresponding perceptions of personal self-consciousness.

Nor can we fully endorse the next statement made by Dr. Kiernan, that "insanity is a morbid mental state, proceeding from brain-disorders, defect or disease." For, while we may readily admit that insanity may result from injury to the brain, as, for instance, in cases of mechanical or physiological incidents; yet what about insanity when caused by sorrow and grief, from bereavement and mental agony, which undoubtedly underlie the greater part of mental disorder? And is it not a further fact, that insanity may involve a mind under the sway of perfect physical and physiological conditions? And, if so, would it not appear more reasonable that physical disorders, if associated with mental disorders (barring accidents) are the consequence not the cause of the latter?

The difficulty at the basis of the conflicting views which separate the materialistic from the idealistic mode of thought, lies in the different appreciation of what we term mind. The materialist, like Dr. Kiernan, regards mind as a physiological output, resulting from complex biological processes under the strain of a purely physical evolution: the denomination for the sum-total of feelings, fancies, emotions, etc.; in fact, for every form or expression of energy which remains too subtle for the markings of the decimal scale and tape line. From this point of view it naturally follows that mind and mental changes can offer no real assistance to the student of psychology in his attempt to work out a truly philosophical and logical standard for the appreciation and determination of morbid mental or moral states.

Yet the very phenomena exhibited by Mademoiselle Beauchamp and others, referred to by Dr. Kiernan, demonstrate, with resistless logic, the fact that mind is a determinable entity, a center or focus of varying aspects of consciousness, unfolding in terms of personal identity from primal, colorless egoity to the shifting shades or fragments of personal appreciation of selfhood. With mind we understand a mental relay-station—the switchboard, so to speak—for ensuing psychic trains of emotions, generated by the contact of the senses with the concrete phenomenal world, and through its adjusting power brought into cognizance of the normal, central self, the true dominant ego or soul. As the refracting media of the crystalline lens, in order to give rise to ocular vision must precipitate on the rods and cones of the retina a determinable and perspectively adjusted image of the various, ever-shifting, ever-appearing and ever-disappearing forms and expressions of concrete lineaments and groups of movements; so, the mind, in order to transmit a rational impulse to the soul is equipped with power to adjust into psychic imagery the waves of impressions ceaselessly rolling in from the sea of general sensation. It is from this chaos of impressions that the sane and normally developed mind forms a cosmos of reason to appeal to the calm judgment of the soul for the moral sanction of its motive.

And it is here we find the cause to the bewildering host of psychic phenomena, cropping up in the form of spiritualistic mediums, professional psychics, convultionaries, hypochondriacs, victims of delirium tremens, and kindred morbidities on the moral and mental plane. It is the mind, overwrought by excitement or worry, that fails in its normal function to focalize on its psychic retina (for the inspection and moral appreciation of the soul), the stream of sense-impressions and imagery floating up before it—a failure which gives rise to what might be called the astigmatism of moral and psychic vision—another term for the morbid and bewildered imagination of the spiritualistic medium—as manifested in the endowment of a semblance of selfhood or pseudo-identity to her uncontrolled emotions and psychic reactions. Hence the multiple or dissociate personality, while morbid when regarded as a state of evolution, is not a mere volatile phantasy, baseless and structureless, reared by the let loose emotions and ruptured feelings of the medium, but stands for the failure of her mind to normally accommodate for the inrush of psychic representations, while unable to bring the ensuing images into orderly foci on her mental retina. Consequently, it is not the mind of the medium, which in itself gives rise to the diverse aspects, images and representations of the psychic plane (as they have a subjective reality all their own), but it is the very presence of these psychic energies—*sui generis* and vital—in entering a mind out of its normal power of accommodation, that impress the latter with concrete, phenomenal reality.

From this it naturally follows that the "dissociation of personality," so far from being "a functional breaking up of that complex organization which constitutes a normal self," proves with logical necessity the actual and active presence of an entity or center of self-consciousness which, with the exhaustless and never lessening force of individual egoity, imparts this unmistakable, though transferable, sense of selfhood to every ensuing mood of the mind, and thus gives rise to the derivations of conscious identity, known as "double," "dissociated" or "multiple personality." The true source of self as individuality lies in the soul; while the mind constitues the mere medium or center, by and through which, the light of soul-consciousness is focalized or "personalized" on every impression passing over the avenues of perception. The breakage-point of consciousness where self-consciousness may be reflected and deflected into mental and moral morbidities of pseudo-identity, is consequently to be traced to the mind, and to its abnormal psychic development.

The criterion for a true appreciation of a phenomenon lies in finding the link by which it forms the unbroken chain of causation, by which is revealed the unity of cause back of the variety of appearance. Everything constitutionally fragmentary and isolated is untrue to nature, without purpose, destiny or survival value, and can therefore furnish no guide to fundamental principles. Hence, it follows that to keep within the border of truth the student must unequivocally reject from his system of philosophy anything which cannot be made to fit in the chain of general causation, with its determining center in unity. To be gauged by appearances of things and events leads to no knowledge of their integral or ultimate meaning and character—no more than the observation, however consummate, of the movement of a single wheel or piston in the engine-room of an ocean liner can lead to any reasonable conception of the principle involved in the ship itself, its purpose and destination. To circumscribe one's scientific researches by preconceived probabilities and isolated phenomena results in mere theorizing and false conception. Nature's plans are vastly different from the isolated segments which the phenomenal world casts up for general scrutiny and discipline. In the general vicissitudes of life we meet the same characteristics that impress us in the Shaksperean dramas, where we always find the unexpected to happen. From the bottomless ocean of life flow up ever new and undreamt of aspects of existence; and the human being, in order to yield any valuable results to science must be studied at once as a whole, and as part of a whole; as appearance and as reality; as fraction and as unity. A kaleidoscope of universal consciousness, man reveals whatever light that strikes his many-facetted nature—dissociated in particulars, united in universals. From unity as cause, through the variety of action, back to unity as ideal, is the course of human destiny. "What is man?" asks Carlyle, and answers himself: "a breath, a motion, an appearance—a visionalized idea in the eternal mind."

But knowledge of life comes from feeling the life; from the science of life, rather than from the life of science.

That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that as a mechanism it is capable of; whose intellect is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself. Such an one, and no other, I conceive, has had a liberal education, for he is, as completely as a man can be, in harmony with nature. He will make the best of her, and she of him. They will get on together rarely; she as his ever-beneficent mother; he as her mouthpiece, her conscious self, her minister and interpreter.—Thomas H. Huxley.

THE TREATMENT OF INSOMNIA.

By Hubert Richardson, M.D.,

Baltimore, Md.,

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There are several theories as to the causation of natural sleep; the older physiologists endeavored to localize the cause in a particular organ as the thyroid gland or the arachnoid plexus. Purkinje supposed that an afflux of blood to the base of the brain compressed the bundles of the corona radiata, interrupting the communication of the brain with the external world; cerebral congestion was an old theory which no doubt originated by a comparison of coma and sleep. Girondeau argued that the lymphatic spaces of the brain were filled with lymph during sleep compressing the vessels and thus reducing the circulation. Somner believed sleep was the result of reduced oxygen in the brain. Hynsius has shown that absorption is more active during sleep than in the waking state, but that the accumulation of reserve albumin is retarded, which he explains by acids arresting the diffusion and exosmosis of albumin, fatigue causing lactic acid and other products of retrogressive metamorphosis, while alkalies accelerate osmosis. Ernera, of Brussels, regards sleep as an autointoxication from the accumulation of leukomains in the blood which are retained by the cerebral centers and have a narcotic action producing sleep; the leukomains formed during activity are oxidized and eliminated during sleep; it is claimed that blood from a fatigued dog injected into a normal one will produce sleep; Bouchard holds that the urine secreted during sleep is more toxic than that secreted during the day. This theory is very attractive, but has received little experimental support; the leukomains with narcotic effect have not yet been isolated and would presumably be ideal hypnotics if admitted to the materia medica. Rabl Y. Ruckardt is responsible for the hypothesis of the neurospongium which advances the theory that the psychic processes are due to the rapid play of the ameboid protoplasmic prolongations of the nerves, sleep being produced by the neurospongium extending between these prolongations and preventing them extending over one another. Lepine and Duval advocate similar theories. Ramon y Cajal believes the neuroglia has ameboid characteristics which enable it to act as an isolator of the nervous current. In relaxation neuroglia pseudopodia extend and intervene between the cells and their protoplasmic processes and the nerve threads so that the nerve currents are intercepted.

The theory generally accepted is that fatigue of the vasomotor center produces arterial dilation with consequent anemia of the brain. Professor Howell, of the Johns Hopkins, shows in his experimental work that the immediate cause of sleep is the dilation of the peripheral arteries causing a reduction in the mean arterial pressure, consequently withdrawing blood from the cortex cerebri and at the same time increasing the proportion of venous to arterial blood so that not only the blood pressure in the brain is reduced, but the bulk of arterial blood passing through the organ, thus reducing the metabolism of the brain cells. Leonard Hill is of the opinion, based on experiments, that reduction of blood pressure is not an actual factor in the condition of sleep, as he found that the mean blood pressure was the same while in the recumbent position before going to sleep as it was during deep sleep. He considers that the reduced bulk of blood passing through the brain is owing to the increased proportion of venous blood and is the actual factor which produces sleep. Both Hill and Howell agree that the vasomotor system center is the point most concerned in the production of sleep. In his experiments on sensory nerves in curarized animals, Howell has shown that the vasomotor center is capable of fatigue, and that consequently the continuous work of the center during waking hours (all our sensations and emotions cause activity of the center) must produce a condition of cell exhaustion which gradually causes dilation of the arterioles with loss of arterial tone, so that on taking the erect position from the recumbent the blood pressure falls instead of rising 10 mm. to 20 mm. Hg., showing that the power of the vasomotor system to overcome the effect of gravity has been lost.

Sleep is deepest during the first two hours, and then as the center recovers the arterioles gradually contract, reducing the proportion of venous to arterial blood and increasing the bulk of blood circulating in the brain. When the arteriolar contraction and the proportion of venous to arterial blood are normal, the subject awakes.

The force and rate of the heart beat is decreased by the reduced quantity of arterial blood passing through the coronary arteries; the heart remaining longer in diastole receives a greater amount of nourishment and does considerably less work, consequently recuperates during sleep. The period of sleep is therefore the result of a systemic loss and resumption of tone of the vasomotor center.

Howell suggests another factor in the production of sleep, viz., the fatigue of the psychic portions of the brain, which are particularly active during the awaking state, causing them to lose their reactive power which will be further decreased on the reduction of the blood supply, when they fall more readily below the standard of consciousness.

During natural sleep the eyelids are closed to exclude light and to avoid visual sensation: the eyeballs are turned upward, the voluntary muscles are relaxed so that the body is in a state of complete repose, respiration becomes slower, the amount of inspired air becomes less—so much so, according to Mosso, that it may fall to one liter instead of seven as in the waking state. Respiration also changes its character. Instead of being abdominal it becomes almost entirely thoracic or costal, the action of the diaphragm is weakened, while inspiration is prolonged, occupying five-sixths of the respiratory period instead of four-fifths, the respiratory pause is absent and the depth is increased.

The gaseous exchange is also modified, there being a decrease in the elimination of CO from 52 per cent. during the day to 42 per cent. during sleep, while there is an increase in the absorption of oxygen. The necessity of oxygen for recuperation from fatigue is well shown by the experiments of I. Joteyko in Richet's laboratory. He found that if the isolated gastrocnemius of a dog be fatigued by being alternately tetanized for, say, five minutes, and allowed to rest for five minutes, after some time, the intensity of the stimulus remaining constant, the contraction curve begins to fall, until finally the stimulation no longer produces any contraction, and the muscle remains at rest in a slightly contracted condition. If the muscle be left to itself and kept moist for a considerable time, contractions nearly equal to those before the fatigue can be induced anew with stimulus of the same strength. One of the factors in the recovery is the presence of oxygen. Joteyko proved that by excluding oxygen after complete fatigue, the muscle cannot again be put into activity, showing that in fatigue it is absolutely necessary for the muscle to receive oxygen.

During sleep the weakening and slowing of the cardiac action is marked. Berichardt found that in a child 21 days old, during the waking state the pulse was 140, while during sleep it was 121; from 6 to 21 months it was 128 waking and 112 during sleep. Besides the peripheral arterial dilation there is a fall in temperature of about 2°. The surface vessels begin to dilate in the evening and reach their maximum during the first hour of sleep. Martin measured the different parts of the body and found that during sleep the chest became three-fourths of an inch smaller, while after a sleepless night it was enlarged five-sixths of an inch and the abdomen half an inch, showing that during sleep there is continued loss of peripheral arteriolar tonicity. The parts usually resume their waking dimensions after six to seven hours' sleep.

From the dilation of the surface vessels it follows that the sweat and sebaceous glands are more active during sleep, which may account for the peculiar odor of the sleeping-room and for the greasy, moist condition of the skin which exists on waking in the morning. There is a decreased function of the various organs of the body as well as the brain during sleep. In four cases in which the urine secreted during the sleeping and waking hours was collected separately, I found the following quantities per hour:

	Elimination during Sleep.				Elimination during Waking.			
	I.	II.	III.	IV.	I.	II.	III.	IV.
Urine, per hour............	44cc.	31cc.	27cc.	32cc.	66cc.	46cc.	42cc.	52cc.
Nitrogen, per hour......	0.462	0.383	0.587	0.439	0.486	0.452	0.765	0.73
Carbon in organic combination, per hour.......	0.414	0.334	0.32	0.38	0.516	0.35	0.409	0.586
Carbon in inorganic combination, per hour.......	0.0098	0.0049	0.005	0.0042	0.0116	0.0052	0.0097	0.008
Total carbon per hour...	0.513	0.339	0.324	0.385	0.528	0.358	0.411	0.594
Carbon nitrogen.........	1.2	0.88	0.57	0.87	1.08	0.79	0.58	0.8
Organic carbon.........	62.7	67.3	63.6	90.8	45.51	42.2	42.1	72.4
Inorganic carbon..............								

Mendel and Marro claim that more phosphoric acid is eliminated during sleep, especially earthy phosphates, while alkali phosphates are increased during the waking hours owing to brain activity. The elimination of phosphoric acid is influenced by too many causes for these observations to have much weight. Both the nitrogen and carbon elimination is less during sleep, while the factor $\frac{c}{n}$ shows but little variation. The relation of carbon in organic combination to carbon in inorganic combination is less during sleep by about one-third. This would seem to show that less alkali is eliminated during sleep, and that the alkalinity of the blood is reduced.

Of blood changes we know very little. Keyes found a decrease in the number of red corpuscles after several nights of insomnia, while Byford found that every sleepless night accelerates the blood flow, suggesting it is owing to the decreased oxygen-carrying power of the blood, the increased circulation being compensatory.

In regard to the nervous system, some writers assert that sensibility becomes more intense, others maintain that it is deadened. These differences of opinion are probably due to the methods of investigation; those who find sensibility deadened have observed conscious sensation not sensibility, while those who say sensibility is increased have observed reflex acts. Dr. Noyes, experimenting with a dement, arranged that the knee tendon be tapped at regular intervals of five seconds. When the patient was asleep and undisturbed the knee jerk gradually disappeared, but the mere sound of a person walking across the floor was sufficient to stimulate a series of jerks, which gradually subsided, the tap of a pencil again starting the reaction. Reflexes are undoubtedly active during sleep. Upon tickling the foot it is withdrawn; the cremasteric, abdominal, and tendon reflexes, and the pupil reaction are also nearly as active as in the walking state, except in the first hour or two, when sleep is the deepest. Tarchanoff found that the cerebral cortex in puppies ceased to react readily to electric stimuli, but the spinal cord and the sensory nerves were active; sensations of pain were deadened to consciousness. In other words, the nerves transmit the sensations of pain, but the sleeping animal does not perceive them.

That the sensory are fully awake during sleep is shown by the increase in the volume of the brain on external stimulation by sound, light, or tactile impressions. The voluntary muscles are also awake, as a sleeper will change his position in bed without awakening.

To summarize, there are three main factors in the production of sleep: (1) Diminution of irritability caused by fatigue of portions of the cortical area; (2) voluntary withdrawal of sensory and mental stimuli involved in the preparations for sleep; (3) diminished blood supply to the brain owing to relaxation of tone in the arteries from fatigue of the vasomotor center and the consequent reduction in the pressure and bulk of blood in the brain. If anemia of the brain were the sole cause of sleep syncope would be sleep, but in syncope there is loss of consciousness due to anemia, but there is not sleep.

The nervous theories of sleep are defective because they do not point to a fundamental cause. Creighton Browne's remark that the arteries were made for the brain and not the brain for the arteries is very apt, as the amount of blood going to the brain is regulated by the functional activity of the nervous tissue. It is very evident from the foregoing that during sleep consciousness is arrested, so that sleep is the resting time of consciousness, but the arrest of consciousness is not necessarily sleep.

Girondeau declared that sleep was a useless, foolish, harmful practice; but as yet no one has been able to cure himself of the habit, and experiments show that loss of sleep is much more harmful than loss of food. In the Iowa University, wherein some experiments were made, men were deprived of sleep for about 90 hours; in one case hallucinations occurred, which disappeared after sleep. In all there was a steady increase of weight with a decrease in grip and pull force; acuteness of vision was increased, dropping to below normal after sleep; memory became defective, and power of attention impaired; in one case the temperature fell 3° below normal.

When the ability to sleep is weakened sleep becomes light and fugitive. As a rule broken sleep occurs in persons with an irritable vasomotor system, who blush easily, and in whom the pulse quickens on slight provocation, and also in those of emotional temperament who are easily provoked to grief or laughter. These patients will say that they have not slept a wink all night; that they have heard the clock strike every hour; but if watched it will be found that they sleep lightly at intervals during the night. Complete insomnia rarely occurs, and when it does death takes place in eight or ten days.

Mental overwork produces insomnia, probably owing to overdilation of the cerebral vessels, which fail to contract through temporary paralysis. Insomnia, the result of physical overwork, is probably due in part to the same cause and in part to the increased action of the heart, which fails to subside as rapidly as the pressure. Oliver has shown that under normal conditions the blood pressure returns to normal much more rapidly than the pulse.

Emotions cause sleeplessness by raising the blood pressure, the arterioles contracting. In anemia insomnia is due to want of tonicity of the vessels, the blood which gravitates to the lower extremities in the erect position flows to the brain on lying down; these patients may complain that while standing or sitting they are sleepy, but on lying down they become wide awake. In these cases a little food in the stomach with strychnin or digitalis will often give a good night's rest.

In mania and melancholia insomnia is very marked and difficult to treat. In an article on "Blood Pressure and Its Relation to Insanity" I showed that in mania there was an increased volume of blood passing through the brain with but slight or no increased intracranial pressure, producing increased mental activity with dilation of the cerebral arteries to such an extent and for such a length of time that they lose their tonicity and are unable to contract even when the heart action is reduced. In simple melancholia there is a decreased volume of blood passing through the brain, but also an increased intracranial pressure; the proportion of venous to arterial blood being increased, lessened mental activity and depression is produced. In melancholia agitata there is an increased volume of blood through the brain with increased pressure, producing mental activity with depression. It is evident that these diseases require different treatment to bring about the conditions necessary to normal sleep.

In order to compare more easily the conditions of normal sleep and the causes of insomnia with the physiologic action of hypnotics the following summary will be of advantage:

The conditions of sleep are: 1. Dilation of the peripheral and abdominal vessels. 2. Increased proportion of venous to arterial blood. 3. Slowing and weakening of the heart's action. 4. Reduced quantity of blood circulating through the brain. 5. Reduced blood pressure. 6. Decreased elimination of CO. 7. Increased absorption of oxygen. 8. Exclusion of external stimuli which produce activity of the vasomotor center. 9. In sleep consciousness is lost; the vasomotor system recuperates. 10. The spinal cord does not sleep and only portions of the brain, though the reaction to external stimuli is reduced.

The causes of insomnia will naturally be opposite of the above conditions: 1. Unusual irritability of the vasomotor system. 2. Excessive physical work which stimulates the heart to such an extent that it fails to subside to normal. 3. Excessive mental work which produces dilation of the cerebral vessels for such a length of time that they become paralyzed, losing their normal tone. 4. Anxiety, worry, intense joy, which stimulates the vasomotor nerves, contracting the arterioles, and which may produce dilation of the right heart. 5. Anemia in which the vessels have lost their tonicity.

The question as to whether hypnotics produce normal sleep is of very great importance considering the liberal manner in which they are prescribed by the physician and used by the laity without supervision.

Opium is probably most used even when there is no pain, and it certainly does not produce the conditions necessary for normal sleep. It has a specially depressing action on the respiratory center. It stimulates the heart, causing the heart muscles to dilate more during diastole and to contract more during systole, increasing the amount of blood forced through the circulation. It contracts the arterioles especially in the splanchnic area, and this contraction may be so great as forcibly to dilate the vessels of the skin. The cerebral faculties are at first stimulated by the increased blood supply, it then blunts the perceptive and the sensory centers and impairs the conductivity of the afferent nerves. It is thus evident that instead of producing the conditions for normal sleep opium causes unconsciousness by intoxication which may or may not be followed by sleep; the centers of consciousness are not at rest but poisoned. As the drug is eliminated by the intestines with great rapidity (morphin given hypodermically is found in the stomach two and one-half minutes after injection) the patient may or may not sleep after its effect has worn off. In insomnia from loss of tone of the vessels, opium may produce sleep, but strychnin and digitalis are more certain. An occasional dose of opium is practically harmless, and the beneficial effect of the drug in neurasthenic melancholia is well known, but if it is going to be of value the favorable action is soon evident. The custom in some institutions of keeping patients on opium for months, raising or lowering the dose according to indications, cannot but be harmful, as long continued use of the drug permanently blunts the perceptive and sensory centers.

Paraldehyd produces a condition resembling sleep, and is described as being perfectly harmless. It is said to be antispasmodic, diuretic, but not diaphoretic; consequently it does not dilate the arteries of the skin; it also strengthens, though it slows the heart. I have seen a victim of the paraldehyd habit who, upon failure to get his dose was thrown into an intensely nervous condition resembling mania. Gradual reduction of the drug was impossible, as the patient missed the odor and knew at once when the dose began to get low; finally the drug was stopped altogether, and after a week of maniacal excitement he recovered. Another patient took a very large dose with suicidal intent or through ignorance. He lay for two days in a comatose condition and could only be aroused with difficulty; the heart action was very weak, and for the first 24 hours it was doubtful if he could survive; he ultimately recovered. A third instance was an alcoholic, who had been taking a nightly dose for some weeks. He developed a mild attack of acute uremia with edema. On stopping the drug without any treatment the elimination of urea rose to 84 grams in 24 hours, and the total quantity of urine to 2,500 cc. In a few days the edema disappeared.

Chloral produces effects which are more likely to produce natural sleep; it depresses the heart, dilates the heart, dilates the peripheral vessels, lowers arterial tension, but decreases oxidation and lowers temperature. It seems to have a selective action on the brain cells, producing stupor, which may, however, be due to the cerebral anemia. In some cases, probably of anemia with want of tone of the vessels, it produced headache and insomnia. It is also said to increase the fluidity of the blood and to crenate the red corpuscles. Although its physiologic action comes near producing the circulatory conditions of normal sleep it must act as a poison, for the chloral habit soon shatters the constitution.

Bromids reduce blood pressure and diminish the caliber of the vessels, showing that their action must be to reduce the output of the heart and not to dilate the vessels; they also reduce respiration and slow and weaken the heart, being a direct nerve poison, producing sluggish reflexes and defective coordination.

Hyoscin hydrobromate acts upon the spinal and cerebral cortex, having little direct effect upon the circulation. Its prolonged use is apt to derange the mental faculties, and may be responsible for the mental impairment which so often follows the so-called gold cure for alcoholism.

Sulfonal and trional are probably more used than any other hypnotics, both by the profession and the laity. Potter, quoting Squibb, says that if it were not for the very evident advantage of sulfonal, when used with care and under medical supervision, it would probably either be excluded from practice or its sale restricted by legislative authority. It produces its hypnotic effect by direct action on the brain cells and upon the red corpuscles by dissolving lecithin. A dose of 1.3 grams (20 grs.) is invariably followed by a large amount of hematoporphyrin in the urine, showing a marked destructive power on the erythrocytes.

The other hypnotics on the market have practically the same effects as those mentioned; that is, they produce sleep by intoxication, and are therefore poisonous. The physiologic action of the bromids, and of chloral, come nearest to producing normal hypnotic conditions, but their toxic effects are well known. I have seen several insane patients slowly succumb who, if sedatives had not been used freely, I believe might at least have been saved from death. I have also observed a patient who remained in an active maniacal condition for four months; no sedatives or very few were given, and the patient apparently slept but very little during that time, yet complete recovery ensued.

There are many mechanical and physical methods which, with attention to details, will obviate the use of hypnotics, or at least enable the patient to sleep with much smaller doses than are usually given. Kraepelin, in discussing some of these methods, said that if the patient does not sleep after their intelligent application it is improbable that he will sleep with drugs.

The hygiene of insomnia is a matter of very great importance, and the following details should be carefully attended to before recourse is had to drugs: The bed room should be large and well ventilated, as it is necessary to keep up the maximum quantity of oxygen in the inspired air. To attain this the carbonic acid gas eliminated must be removed as rapidly as possible and fresh air admitted. To attain this it is best, when the bed can be so placed as to prevent draughts, to keep the window open at night; a common expedient in Europe is to remove one or two panes of glass and substitute moderately fine wire gauze. As the object to be attained is to increase the peripheral circulation, the body should be kept warm, in certain cases an extra wrap around the abdomen and hot water bottles to the feet will have a very good effect. The head and neck should be exposed so as to decrease the circulation, and the temperature of the room should be about 60° F., unless there is some special reason for keeping it higher. In the modern artificially heated bed room these conditions are rarely observed, with the result that the sleeper rises in the morning with a tired, suffocated feeling.

The influence of light on metabolism is well known. Fabini and Ronchi have shown that much less CO is eliminated in the dark while the patient is awake than in daylight. This has been confirmed by experiments on animals reported by Moleschott, Platen, Seloni and Piacenti. Platen found that animals whose eyes were closed with diachylon plaster eliminated a reduced quantity of carbon dioxid. Light increases external stimuli, therefore the metabolism stimulating consciousness is directly antagonistic to sleep.

Another point of considerable importance is to reduce the mental activity for at least one or two hours before going to bed; the patient should abstain from study, reading, or playing any game which requires mental exertion or excitement, in order to decrease the blood flow through the brain as well as the heart's action. The evening meal should be eaten at least four hours before retiring. and neither tea nor coffee should be taken, chocolate being a good substitute. At bed time a glass of hot milk with a sandwich or a few crackers will, by stimulating the stomach, withdraw the blood from the brain to the abdomen; a glass of hot whiskey and water is often a very effective and acceptable hypnotic.

A bath immediately before retiring is often very helpful. The bath room should be about 65° to 70° F., and the patient should first douche the head and face with water at 100° F., then entering the bath, immerse the whole body except the head and neck; the temperature of the bath should be 98° to 100° (if the water is below 96° or above 105°, the peripheral vessels will contract with resultant hyperemia of the brain instead of anemia); five or six pounds of common salt dissolved in the bath is beneficial. The patient should remain in the bath 10 to 20 minutes, until the pulse rate falls, and then should be lightly rubbed down and put to bed with as little exertion as possible; a warm bottle to the feet after the patient is in bed or a bandage around the abdomen will often be found of value. A tablet of nitroglycerin, or better, erythol tetranitrate is a good addition given after the patient is in bed. Sir William Broadbent advises a hot water bottle to the back of the neck as tending to produce local hyperemia; standing in cold water and then rubbing the feet with a rough towel is also recommended. In severe cases the wet or dry pack is of great benefit; the head should be kept cool with a Leiter coil, this being much more satisfactory than the ice cap, and not so severe.

In cases of neurasthenia in which loss of arterial tone is a marked condition, and in anemic conditions in which the mean and maximum pressure is low and there is a reversed postural change of pressure, small doses of digitalis will often be sufficient to produce natural and quiet sleep; opium in small doses sometimes acts well in these cases.

In acute mania with low mean and maximum blood pressure, heart stimulants are indicated; but in chronic mania when there is very high mean and maximum pressure, they are useless and opium is especially contraindicated. In these patients the cerebral vessels are dilated to their capacity, the pulse is rapid and the heart strong, the rapidity of the circulation being enormously increased. Opium in such cases contracts the abdominal vessels, forces more blood through the brain, as it continually flows in the channels of least resistance, while at the same time the heart force is still further increased; Schott baths combined with small doses of bromid, chloral or nitroglycerin will usually calm the patient and produce sleep. If he can be kept in the bath for any length of time without struggling or exertion, it will usually prove sufficient without drugs; often the administration of 0.6 mg. (1-100 gr.) hyoscin hydrobromate, with the bromid before the bath, will make him amenable. If the bath cannot be given without struggling, it had better be dispensed with; but it is rare that the patient does not appreciate the bath and appear to find comfort while in the tub.

It is not my intention to argue for the abolition of hypnotics; on the contrary, there are some cases in which they are absolutely necessary; but in my opinion it is much more rational and better to endeavor to produce the conditions necessary to natural sleep than to give a poison which produces unconsciousness and not sleep, and which must be detrimental to the patient. Before prescribing a hypnotic, the physician should make up his mind what is the cause of the insomnia, and not, as is too often done, prescribe without any attempt at diagnosis of the physical cause.

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Reading makes a full man, conversation a ready man, and writing an exact man. Therefore, if a man write little, he needs a great memory; if he converse little, he wants a present wit, and if he read little, he ought to have much cunning that he may seem to know what he does not. History makes men wise, poetry makes them witty, mathematics subtle, natural philosophy deep, moral philosophy grave, logic and rhetoric able to contend; nay, there is no obstruction to the human faculties but what may be overcome by proper studies.—Lord Bacon.

A STUDY OF ONE CASE OF HEADACHE.

By J. M. French, M.D.,

Milford, Mass.

I AM aware that one case counts for but little in making up statistics or in settling disputed points in therapeutics. Yet all statistics are made up of the records of single cases; and when the one case is a personal experience, and extends over a period of thirty-five years, it may be worth while putting it on record, to help with others in settling disputed points.

As a boy, I suppose that I had headaches sometimes, as other boys do. But I have no recollection of their being either frequent or severe at this period of my life. In tracing their origin, however, I shall be compelled to go back several years beyond this, to my student life.

In the fall of 1875 I attended an excellent course of lectures on therapeutics at Dartmouth Medical College, given by Professor Henry M. Field, of Newton, Mass. In the course of these lectures he taught us some valuable lessons as to the nature and treatment of disease, and among others he spoke of spasmodic colic. I remember his impressing it upon our minds one day that if a person had this disease once he was especially likely to have it again and again, until he had become subject to it. "If you have the bellyache," he said to us one day, "and do not know whether it was the colic or not, you have only to wait a little. If you never have it again you may be sure it was not true colic."

I remember this remark so well on account of what followed. Up to this date I had been a stranger to colic, as I had to sick headache. But on my way home from that course of lectures I suffered from a severe attack of spasmodic colic, which, through lack of proper treatment, lasted me three days. It was brought on by the combined influence of the three factors which I have since found to be its most common exciting causes, namely, exhaustion, errors in diet and exposure to cold. The result in my case was favorable to Professor Field's theory as to the recurrence of the disease, for from that time on for seven years I was subject to frequent irregular but periodical attacks of colic, which were quite severe, and at times interfered materially with my work as a teacher. I confess that as I look back upon them now I find some things in these attacks to remind me of what to-day we would call catarrhal appendicitis. On the whole, however, I do not think they were really of this nature, for though they were repeated at intervals of a few weeks or less for seven years I never had any considerable fever, they usually lasted only one day or a day and a night, and the attacks did not grow noticeably worse.

At the end of about seven years the attacks of colic suddenly ceased and I began to have in their place severe attacks of headache. It was to my mind a clear case of substitution, and I have never seen any cause to doubt that the two symptoms were effects of the same cause, different manifestations of the same general condition. The headaches were not always precisely alike, yet they did all belong to the same general class. There was frontal headache, usually limited to one side, suggesting migraine. In the severer attacks there was nausea and sometimes vomiting, simulating the so-called sick headache. Often there was pain at the base of the brain and tenderness of the cervical spine, with retraction of the head, indicating spinal congestion. The attacks would begin anywhere from morning until the middle of the afternoon, and last until dark, or sometimes until night and sleep, when they would pass away, and the next day my head would be clear. There was often a pain and aching of the eyes, made worse by reading or writing, which led to the thought of eye-strain as the cause. But my eyes were frequently inspected by a competent man, and no fault was found in them save the changes of advancing age. Sometimes I would wake up in the morning without any headache, but with a terribly dull, heavy, oppressed feeling, as though the weight of the world was upon me. I knew that this meant a blinding headache a little later, and I was not often disappointed.

At first I did nothing for it. Then I found temporary relief from the elixir of guarana, and later from caffeine. When the coal-tar preparations came into vogue I tried acetanilid, and finally settled down to the use of a migraine pill or tablet, composed of two grains of acetanilid and one-half grain each of caffeine alkaloid and monobromate of camphor. This gave me marked relief for years. Beginning with one, I went up to two and three at a dose, repeating hourly until relieved, sometimes taking as many as a dozen in a day. I knew that the final results of frequent doses of this nature could not be beneficial, but one will do almost anything to be relieved of a severe headache. And, after all, they never did have the direful results which are so often attributed to them. The worse thing which did happen was that the remedy gradually became worn out, and finally failed to produce its former effects. But for many years it did give me marked relief, enabling me to control my headaches to such an extent that I was able to keep at work until night, when sleep would come and complete the cure, and the next day I would be all right. But during all this time I found it never safe to go away from home without the remedy in my pocket.

I tried various other remedies and plans of treatment, including the eliminating and antiseptic, and several uric acid remedies, all based on the prevalent theory of the accumulation of uric acid in the system. But none of these did me as much good as the migraine tablets.

Finally, another fact was borne in upon my mind. I found that whenever I suffered from any illness which was sufficient to confine me to the house or keep me on a light diet for a few days or a week, for the following few weeks I was invariably freer than usual from headaches. The first time I remember noticing this was when I had a severe attack of the grip, which kept me from eating much for two weeks. After my recovery I was inclined to say that the grip was not so black as it was painted, for my headaches were missing for some time thereafter. This experience was repeated several times in different ways before it occurred to me to put two and two together and call the result four. I had long been inclined to the opinion that my headaches were caused by the accumulation of uric acid or other waste products in the system. It hardly seemed that this could be due to defective excretion on my part, however, as I am never constipated, but, on the contrary, during all these years I have had from three to six movements of the bowels a day on the average for the year round. There has never been any serious abnormality in my urine. I have never been accused of being an unusually hearty eater. I eat less meat than the average man. I do not suffer from primary indigestion, and I never had dyspepsia. I am a little under standard weight to-day, but twenty years ago was a little above it.

In spite of all this—and I do not pretend to give a satisfactory explanation of the fact—it seemed to me that my headaches were to be compared to the smoke of a lamp that is turned too high, clinkers in a furnace when the draft is poor, the ashes of imperfect combustion—in plain English, the accumulation of waste products in the tissues. And when I found that any cause which led me to live on short rations for a time would stop my headaches for a longer time, only to return as soon as the system had had time to get clogged up again, it seemed to me to confirm this theory.

I must not forget to say in this connection that for years I have been in the habit of drinking one, two, or often three cups of strong coffee with my breakfast, and sometimes for dinner also, and that I drank more or less tea. Besides this, I eat an inordinate amount of sugar with my food. I never ate much candy, as it was sure to give me a headache.

Last January my headaches became so

much worse than usual that I was twice within two weeks compelled to give up and go to bed, used up and not able to do business on account of them. This seemed rather hard to endure, especially as the migraine tablets no longer did any good, and the headaches began to hold out over night, and sometimes to last for two or three days at a time. As all the drugs warranted to carry off the uric acid and other waste from the system had failed to do the work, it occurred to me that a sensible way would be to limit the intake instead of trying to increase the outgo. So I stopped off short all at once on tea, coffee, and sugar; limited my eating to considerably less than the usual amount; especially ate still less meat than usual, and made my supper of bread and milk for a good share of the time. The tea and coffee were stopped absolutely, and I have not taken a drop of either since some time in January. The strange thing about this is, that not once have I missed either tea or coffee, not once have I been tempted to go back to them, not once have I felt that my abstinence was a hardship even. As for the sugar, I must confess that it was otherwise. I did miss it greatly, and I have not remained faithful, but have gradually returned to its use, though I do not take as much as formerly. As to the bread and milk, that is no hardship, but rather a pleasure. Nothing leaves me feeling as well as bread and milk. This does not clog up the wheels of my running gear. It seems not to smoke in the burning, but to be consumed completely.

The other important fact is, that since I made this change in my diet I have not had one hard headache, nor one that came near being hard. With the exception, that is, of one or two times when I had an attack of malaria, or fever from some other cause, and then I had a headache which was of an entirely different nature and origin from my old enemy. For some months I had an occasional dull ache, but now even these are gone, and it is but seldom that I have any reminder of the old trouble. My head is clearer, I can work better, and I do not have to carry a bottle of migraine tablets in my pocket for fear I shall be overcome by a headache. The change is a very satisfactory one, and I propose to keep it up.

During the summer my appetite was not very good, and my weight ran down below 150 pounds, whereas a year ago it was over 190. But as the cooler weather has come on I am eating more, and my weight last night was 156. If my headaches do not return, and my appetite continues good, I propose to keep on eating heartily and gaining weight, until I have got back to 160 pounds at least. But at the first signs of the return of my old enemy I shall put on the brakes and limit my diet again.

What are my conclusions? I am satisfied that the improvement was the result of the change in my diet. How much of it was due to the lessened quantity, how much to the change in character, and abstinence from certain articles is open to question. I believe it is due to both elements combined; but, while I am now eating what is to me the normal amount of food, and in most respects the same kind of food I ate a year ago, I do not take any tea or coffee whatever, and I do not propose to do so at any time in the future.

I am not going to rush off and join the ranks of the vegetarians, or the two-meals-a-day cranks, nor enter upon a crusade against tea and coffee, or claim that everyone must do as I do. I am not even going to advocate the drugless treatment of disease. I am simply learning a lesson from experience and giving you the facts as I go along, without waiting for the final conclusions.

WITH narrow-minded persons, and those in a state of mental darkness, we find conceit; while with mental clearness and high endowments we never find it. In such cases there is generally a joyful feeling of strength, but since this strength is actual, the feeling is anything else you please, only not conceit.—GOETHE.

MAY NOT THE EYES BE THE SOURCE OF THE TROUBLE?

By George T. Stevens,

New York.

I am taking for my text for this short article a commonplace incident and I propose to base upon it some quite commonplace remarks. Yet, while these remarks will appear to the expert as ordinary truths, it is an unfortunate fact that they are truths not generally understood by those who need most to know them.

A lady who had passed her forty-fifth year consulted me respecting her eyes. She had had a number of forms of nervous trouble the past five years and had been during most of that time more or less under the care of a physician. While writing the formula for glasses, of which she was, and had been, greatly in need, I remarked upon the nervous disturbance which is almost sure to arise from the neglect to use glasses when the time for their use arrives.

A lady accompanying the patient, hearing the remarks, said to the patient, "I believe that that is all that is the matter with your husband. He is all the time under the doctor's care for his dyspepsia and his vertigo, and I think he needs glasses." To which the patient replied, "No, his eyes are all right. He has never complained of them and the doctor says it is all from his stomach."

I could hardly relate a more commonplace incident than this nor one suggesting a more important lesson. I do not know the exact state of the eyes of my patient's husband; I know only from what I overheard in the brief conversation between the two ladies that he is about forty-six years of age, that he has not used glasses and that for five or six years he has been a sufferer from dyspepsia, nervous exhaustion and vertigo. He is a merchant, an active man and personally superintends his own business. He was, previous to his first attack of "nervous prostration," a few years ago, in perfect health and in the vigor of business life.

Let us suppose that this gentleman's eyes are just as the wife believes, without natural defect and without disease. Then we have an easy key to his nervous state during the past few years.

A pair of eyes in which there is no anomaly, that is, eyes constructed on the typical plan, begin to be presbyopic, that is "old sighted," at the age of forty. This is not the result of weakness or disease or of poor eyes; it is the natural development of the eyes and comes as regularly as the first set of teeth or any of the physical developments. It arrives, perhaps, more exactly on time than any of our normal physical modifications. It is not a loss of the power of vision, as many suppose; it is not a disease; it is not a condition which can be avoided or delayed.

The man or woman who fails to recognize this important crisis is pretty sure to pay the penalty of the neglect in the form of dyspepsia, headache, vertigo and "nervous prostration." This list does not by any means include all the reactions incident to the failure to recognize the natural course of the process of change which passes in all alike.

In this country the number of such nervous complaints is notorious. Americans are called, by themselves and by other nations, a "nervous race," and the high tension at which Americans live is supposed to be the reason for this widely prevailing condition. This is an unfortunate error; unfortunate because it diverts attention from the actual facts, and thus encourages the conditions which are so unpleasant. The peculiarity of Americans in respect to nervous troubles, if such peculiarity exists, is accounted for in the fact that of all the peoples of the earth the Americans are a reading people. They use the eyes at close range to an extent not equalled in any other quarter of the globe. When these organs, taxed beyond those of any other peoples, are worked under unfavorable circumstances it is natural that the nervous organization should suffer.

The failure to recognize presbyopia is only one of the neglects respecting the eyes, for there are many defects to which children are subject, of which mention will be made as we proceed.

Someone who has read these lines up to this point will smile with a complaisant curl of the lip and the remark, "this talk about presbyopia coming to all alike and at a certain age is nonsense. My mother lived to the age of ninety and never used glasses and could see as well as anyone."

This remark, my friend, shows that you are not a good observer. We shall not deny that your mother lived to the age of ninety, nor that she was able to knit or to read her bible or even her newspaper during her last years. That does not prove that your mother could see as well as anyone. She was myopic, that is near-sighted. She was able to see close at hand, but she could not see at a distance. She became presbyopic, but even that failed to carry the focus beyond the ordinary distance for reading.

The myopic eye may be able to see at close range but does not see clearly at some distance without the aid of glasses. In this respect it differs from the typical eye in that while the typical eye does not with age lose the faculty of seeing perfectly at the distance, it requires, after the age of about forty, a glass to aid in seeing at close range. The near-sighted eye may not have to use a glass for this purpose because whatever it sees and sees clearly is at close range. The fact that your mother could distinguish between the individuals of her family at a few feet distance did not show that she had good vision at that range.

Nothing which you could say would more positively prove that your mother did not have "good eyes" than your remark that she continued to read after the normal period for presbyopia without the aid of glasses.

Now, to return to the subject of our text. The man in the vigor of life or the woman in the height of her physical activity who, soon after the age of forty, begins to feel the weight of cares or of ordinary duties as excessive, who finds himself or herself dyspeptic or troubled with headache or insomnia, the woman who cannot rest in her chair without a pillow at the back of her neck, who has backache and other nervous troubles had best see an expert who can tell of the condition of the eyes, and if he or she will follow the advice of the expert it will be surprising how quickly the unpleasant symptoms may disappear. Under such circumstances the first medicine that the patient takes is often incorrectly supposed to induce a wonderful cure, and if it does not get into the newspapers as an advertisement it is sure to be extolled to all acquaintances as the most remarkable medicine which cures when everything else has failed.

I have already referred to the fact that many children have defects of the eyes which do not come under the head of diseases, but are normal peculiarities. These children and young persons may see well both at distance and at close range. The fact of ability to see does not bear upon the question of how much injury may occur to the subject of the defect as the result of the efforts to adjust the focal range or the relations of the eyes.

Thousands of children suffer from headaches, irritable temper, disinclination to study, chorea, and even most terrible forms of nervous convulsions because of some unobserved defect in the form of or the relations of the eyes.

It is absurd to say, "Oh, he has never had anything the matter with the eyes." How can one be sure that the boy or girl has never had anything the matter with the eyes until someone who is expert in detecting the defects of the eyes has reported on their condition, and why should parents and physicians neglect to the very last the investigation into the source the most potent and the most common of all the causes of nervous disturbances?

The mother who, without investigation or knowledge, exclaims, "Well, I don't want my child to put on glasses," may think that she is making an exhibition of proper regard for her child. In fact, she may be pronouncing a sentence of destruction of her victim. She cannot counteract the laws of nature, and it is much wiser to recognize and acknowledge these laws than to put up an ineffectual fight against them.

If the child has the condition known as hypermetropia or astigmatism a loss of nervous power is absolutely sure to result and nervous manifestations are very likely to follow. This loss of nervous energy must be a handicap during all of the history of the child.

Of what use is it to say that someone has had an eye defect and yet has not been prostrated by it. How much better in health and strength, in mental force and in excellence of self-control might not such a person be had he or she removed the handicap which has been a useless and dead weight, a discount on performance and a hindrance to initiative?

It is not always that these eye defects demand for their correction the use of glasses. There are many faults of adjustments of the eyes which cannot be reached by such means. Such defects can only be detected and localized exactly by those who are especially skilled in such matters. Some of these unfavorable adjustments are of the utmost consequence to the individual, yet they may be concealed to all except the expert. They induce the greatest variety of ailments. They are responsible for a large proportion of the cases that congregate in our asylums for the insane and our colonies for the epileptics. Could these faults of adjustments have been found and corrected the victims of these fearful maladies might have and doubtless would have escaped the fate which has overtaken them.

Some of these defects can only be removed by delicate surgical processes. And here again we hear the mother exclaim, "I will never consent to having a surgical operation on my child's eyes," in which the mother exhibits an unreasoning prejudice greatly to the disadvantage of her offspring.

In the hands of the more expert, operations for the correction of such faults are as devoid of danger as is the process of cleaning the teeth by the dentist, and the whole tenor of life of the patient may be, and often is, modified or even revolutionized as the result of a slight painless operation which scarcely incommodes the patient. Why should the unreasoning impulse of the parent stand in the way of the welfare of the child?

I have thrown out some suggestions which, as remarked at the beginning of this article are commonplace to the expert, but unfortunately are either unknown or are unheeded by the majority of people and even by a majority of physicians. They are, nevertheless, of transcendent importance, and the suggestions thrown out are only those which are most obvious and most generally recognized.

Could the American people be brought to realize that they, the greatest users of the eyes in the world, need to care for the organs of which they make the greatest use and that these organs when working badly may become instruments of danger and of destruction, a lesson of the utmost importance would be learned which would add immensely to the happiness and welfare of the individuals, as well as to the strength of the nation.

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It has been said that poetry and truth are antagonistic, and that by no process could they be fused in the crucible of genius. Coleridge held that science and poetry were irreconcilable. Edgar Poe insisted on the same fallacy, yet Shakespeare and Wordsworth made truth and poetry compatible. Shakespeare had intuitions of science, Wordsworth was a botanist and Shelley was imbued with exact science. Never does Tennyson sing so sweetly as in his prefigurations of the truths discovered by science. Dr. Darwin's poems are replete with scientific investigation and discovery. Emerson's poetry is thoroughly scientific; his verse, like his prose, electrifies the nerves and fibers and elicits a thrilling response. His science does not introduce a single discordant note in his poetry, and Goethe was a great reconciler. He has mingled history, philosophy, science and fable into an integral whole of wondrous beauty.—Mayne.

THE NECESSITY OF THE SPUTA CUP AND DESCRIPTION OF A NEW ONE.

By Edward A. Tracy, M.D.,

Boston.

Preventive medicine will undoubtedly occupy an important position in the medical art of the future. It consists in applying the known facts of pathology and bacteriology to everyday life, and thus lessening, or stamping out, disease. Thus our knowledge of lung tuberculosis, of pneumococcal pneumonia, of diphtheria, and of influenza bronchitis should impel us to use every effort to limit the spread of these diseases, by our teaching early and late, personal hygiene, and also by ruthlessly destroying the infective bacilli that pour forth from each individual case of these diseases in such countless numbers. No one will dispute the necessity of care in destroying the sputa discharged from the consumptive; the necessity exists likewise in the sputa discharged from pneumonia, diphtheria and influenza or grippal bronchitis. Knopf, of New York, the tuberculosis expert, takes this stand in regard to the hygienic care for the sputa of persons in institutions and reformatories. In a recent article published in the *N. Y. Med. Journal,* Nov. 17, 1906, he writes: "I am firmly convinced that with such a measure (compulsory expectoration into proper hygienic receptacles, with disciplinary punishment for its infraction) not only would tuberculosis in prisons diminish, but epidemics of pneumonia and grippe would be less to be feared and more easily controlled." Most doctors who have practiced for ten or more years have met with cases of pneumonia (pneumococcal) in families which they have treated, where one case was followed by another, and generally the second case was the person who was nursing the first case. This, I believe, best explainable by the fact that a patient sick with pneumonia is careless of spitting the tenacious infective sputa and thus the one who nursed the patient became infected. I have personally seen several such cases and believe that, if due care had been taken of the infective sputa, the contagion would not have spread. Hereafter I should certainly advise the use of a sputa cup that could be readily destroyed with its infective contents. Recently a cup has been brought to my attention that has everything about it to recommend it for its wide adoption in the practice of preventive medicine. It is known as the Hygiene Sputa Cup and consists of a stiff paper box with a spring closed cover that sets in a holder that permits of its easy manipulation by the patient. When sufficiently used and it is desired to replace the cup by a new one the cup, with closed cover, is lifted out of the holder and deposited in the fire and a new cup and cover replaced in the holder. The paper is medicated, so as to be antiseptic, and also objectionable to flies, those ceaseless spreaders of infection. The cup and holder is cheap; it retails at the drug store for forty cents for a dozen cups and covers and one metal holder. This cup and holder is the invention of Mr. Fred Jonah, a trained nurse, and is manufactured by the Lister Co., 7 Park Square, Boston. This sputa cup seems to me admirably adapted for the use for which it has been devised, and I believe its use will be of real service in the war waged against sputal infection.

Cor. E. and B'way.

THE MEDICAL AND SURGICAL KNOWLEDGE OF SHAKSPERE*

with explanatory comments by JOHN W. WAINWRIGHT, M.D.

(*Continued from page 732.*)

SHAKSPERE IN MEDICINE.

OBSTETRICS AND MIDWIFERY.

MIDWIFE.

Sir Toby. Like Aqua-vita with a midwife.
—*Twelfth Night, Act II., Sc. 5*

NURSE AND WEANING.

Nurse. And she was wean'd—I never shall forget it,—
Of all the days of the year, upon that day;
For I had then laid wormwood to my dug,

* * * * * * * * * *

When it did taste the wormwood on the nipple
Of my dug, and felt it bitter, pretty fool!
To see it tetchy and fall out with the dug.

* * * * * * * * * *

For then she could stand alone; nay, by the rood,
She could have run and waddled all about.
—*Romeo and Juliet, Act I., Sc. 3.*

Cleopatra. Peace, peace!
Dost thou not see my baby at my breast,
That sucks the nurse asleep?
—*Antony and Cleopatra, Act V., Sc. 2.*

This reference to the asp as "my baby" requires considerable imagination. The reptile did not suck Cleopatra to sleep, but rather caused her death by its poison or virus.

BIRTH.

Lear. Thou know'st the first time we smell the air,
We wawl and cry:—
—*King Lear, Act IV., Sc. 6.*

Pericles. ————Lucina, O
Divinest patroness, and midwife, gentle
To those that cry by night, convey thy deity
Aboard our dancing boat; make swift the pangs
Of my Queen's travails!—

* * * * * * * * * * *

A terrible childbed hast thou had, my dear;
No light, no fire: the unfriendly elements
Forgot thee utterly; nor have I time
To give thee hallow'd to thy grave, but straight

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SHAKSPERE IN MEDICINE.

Must cast thee, scarce coffin'd, in the ooze;
Where, for a monument upon thy bones,
And aye-remaining lamps, the belching whale
And humming water must o'erwhelm thy corpse,
Lying with simple shells.

—Pericles, Act III., Sc. 1.

The reader will remember that Pericles was accompanied by his queen in a voyage during which a most severe storm overtook them. Through fear and the effect of the "Dancing boat" the queen, who was with-child, was prematurely delivered of a girl baby. She apparently expired, was enclosed by Pericles in a water-tight chest and consigned to the deep. The chest was quickly washed ashore, discovered at once, and the queen released and resuscitated.

Here we have, as far as the author is aware, the only gross violation of natural laws made in the Master's plays. The necessity for such a sequel existed, however, and in the happy termination of the queen's distress and perilous position, we are glad to allow unquestioned this poetic license.

QUICKENING.

Costard. Faith, unless you play the honest Trojan, the poor wench is cast away: she's quick; the child brags in her belly already; 'tis yours.

—Love's Labor Lost, Act V., Sc. 2.

Quickening or movement of the fetus in utero.

Clown. Sir, she came in great with child;

—Measure for Measure, Act II., Sc. 1.

TWINS.

Timon. Twin'd brothers of one womb,—
Whose procreation, residence, and birth,
Scarce is divident,—touch them with several fortunes,
The greater scorns the lesser.

—Timon of Athens, Act IV., Sc. 3.

Twins are also referred to in Othello, Act II., Sc. 3, in the Second Part of King Henry Sixth, Act IV., Sc. 2, and in the Comedy of Errors, Act I., Sc. 1.

MISCARRIAGE.

Doll. Nut-hook, nut-hook, you lie. Come on; I'll tell thee what, thou

SHAKSPERE IN MEDICINE.

damned tripe-visaged rascal; an the child I now go with do miscarry, thou hadst better thou had'st struck thy mother, thou paper-faced villain.

Hostess. O that Sir John were come! he would make this a bloody day to somebody. But I would the fruit of her womb might miscarry!

—Part Second, King Henry Fourth, Act V., Sc. 4.

This passage refers to physical violence in bringing about a miscarriage.

Nut-hook a name of reproach for the beadle or baileff, an officer of the Law, because they usually were armed with a catch-pole or a pole with a hook at the end.

Doll is never at a loss for abusive epithets: her vocabulary is amply sufficient for any and all occasions.

TEETH AT BIRTH.

Queen Margaret. From forth the kennel of thy womb hath crept
A hell-hound that doth hurt us all to death:
That dog, that had his teeth before his eyes
To worry lambs and lap their gentle blood;
That foul defacer of God's handy-work.

—King Richard Third, Act IV., Sc. 4.

The Master here calls attention among other things to the eruption of the teeth before birth, and in this instance it is not merely a poetic fancy, but is amply substantiated by history.

DEFORMITY AT BIRTH.

Richard. I, that am curtail'd of this fair proportion,
Cheated of feature by dissembling nature,
Deformed, unfinish'd, sent before my time
Into this breathing world, scarce half made up,
And that so lamely and unfashionable
That dogs bark at me, as I halt by them;—

—King Richard Third, Act I., Sc. 1.

Shakspere portrays Richard as horribly deformed at birth. It were unfortunate thus to picture this prince, for we have it from reliable sources that while he was not perfectly fashioned, yet he was most courteous, pleasing in manner, albeit somewhat ambitious to secure the crown of England and resorted to unwarranted means to this end.

Gloster. Why, love forswore me in my mother's womb;
And, for I should not deal in her soft laws,

SHAKSPERE IN MEDICINE.

She did corrupt frail nature with some bribe
To shrink mine arm up like a withered shrub;
To make an envious mountain on my back,
Where sits deformity to mock my body;
To shape my legs of an unequal size;
To disproportion me in every part,
Like to a chaos, or an unlicked bear-whelp
That carries no impression like the dam.
—Part Third, King Henry Sixth, Act III., Sc. 2.

The Duke of Gloster here referred to is he who afterward became King Richard the Third. (See comment on page 23.)

With such a multitude of incongruous shortcomings one can scarcely wonder that Gloster should endeavor to make amends by seeking to be exalted as the sole majesty of England.

PREMATURE BIRTH.

King Henry. Thy mother felt more than a mother's pain,
And yet brought forth less than a mother's hope;
To wit, an indigested and deformed lump,
Not like the fruit of such a goodly tree.
Teeth hadst thou in thy head, when thou wast born,
To signify thou cam'st to bite the world:
—Part Third, King Henry Sixth, Act V., Sc. 6.

Falstaff. My lord, I was born about three of the clock in the afternoon, with a white head, and something of a round belly.
—Part Second, King Henry Fourth, Act I., Sc. 2.

ILLEGITIMATE BIRTH.

Robert. ——; and took it, on his death,
That this, my mother's son, was none of his;
And, if he were, he came into the world
Full fourteen weeks before the course of time.
—King John, Act I., Sc. 2.

This is a case of illegitimacy rather than premature birth, as "fourteen weeks before the course of time" would bring the event before the viable period of pregnancy.

DIFFICULT LABOR.

Hotspur. Diseased nature oftentimes breaks forth
In strange eruptions; oft this teeming earth
Is with a kind of colic pinch'd and vex'd
By the imprisoning of unruly wind

SHAKSPERE IN MEDICINE.

Within her womb; which, for enlargement striving,
Shakes the old beldam earth and topples down
Steeples and moss-grown towers. At your birth
Our grandam earth, having this distemperature,
In passion shook.
—*Part First, King Henry Fourth, Act III., Sc. 1.*

Birth during a volcanic eruption.

King Henry. Now, Lovell, from the queen what is the news?
Lovell. I could not personally deliver to her
What you commanded me, but by her woman
I sent your message; who returned her thanks
In the greatest humbleness, and desired your highness
Most heartily to pray for her.
King Henry. What say'st thou? ha!
To pray for her? What, is she crying out?
Lovell. So said her woman; and that her sufferance made
Almost each pang a death.
King Henry. Alas, good lady!
Suffolk. God safely quit her of her burden, and
With gentle travail, to the gladning of
Your highness with an heir!
—*King Henry Eighth, Act V., Sc. 1.*

LEG PRESENTATION.

Gloster. For I have often heard my mother say
I came into the world with my legs forward:
Had I not reason think ye, to make haste,
And seek their ruin that usurp'd our right?
The midwife wondered: and the woman cried,
"O Jesus bless us, he is born with teeth!"
—*Part Third, King Henry Sixth, Act V., Sc. 6.*

CÆSAREAN SECTION.

Macduff. ————, Macduff was from his mother's womb
Untimely ripp'd.
—*Macbeth, Act V., Sc. 7.*

Mother. Lucina lent me not her aid,
But took me in my throes,
That from me was Posthumus rip'd
Came crying 'mongst his foes.
A thing of pity.
—*Cymbeline, Act V., Sc. 4.*

Macduff, Posthumus and Cæsar came into the world through the operation of Cæsarian section. Indeed the operation takes its name from the fact that the great Julius Cæsar was so brought into the world.

DEATH OF UNBORN.

Queen Elizabeth. And I the rather wean me from despair,
For love of Edward's offspring in my womb:
This is it that makes me bridle passion,
And bear with mildness my misfortune's cross;
Ay, ay, for this I draw in many a tear,
And stop the rising of blood-sucking sighs,
Lest with my sighs or tears I blast or drown
King Edward's fruit, true heir to the English crown.
—Part Third, King Henry Sixth, Act IV., Sc. 4.

Here we have a description of the emotions; being powerful enough to cause the death of the unborn child.

King Henry. First, methought,
I stood not in the smile of heaven; who had
Commanded nature, that my lady's womb,
If it conceived a male child by me, should
Do no more offices of life to't, than
The grave does to the dead: for her male issue
Or died where they were made, or shortly after
This world had air'd them:
—King Henry Eighth, Act II., Sc. 4.

Death of the fetus and its retention in the womb, which was one of the king's excuses for seeking to divorce Queen Catherine.

Paulina. This child was prisoner to the womb; and is,
By law and process of great nature, thence
Free'd and enfranchis'd: not a party to
The anger of the king; nor guilty of,
If any be, the trespass of the queen.
—Winter's Tale, Act II., Sc. 2.

The sad tale of Perdita's abandonment; the fate of Antigonas; the wooing of Florizel; the manner of the reconciliation of the king to his lost queen Hermione, makes a story of great interest.

SHAKSPERE IN MEDICINE.

La Purcelle. (Joan of Arc).
I am with child, ye bloody homicides:
Murder not then the fruit within my womb,
Although ye hale me to a violent death.
—*First Part, King Henry Sixth, Act V., Sc. 4.*

This final appeal to the law which exempted one with child from capital punishment did not avail.

THERAPEUTICS, PHARMACY AND TOXICOLOGY.

Helena. You know my father left me some prescriptions
Of rare and prov'd effects, such as his reading,
And manifest experience had collected.
—*All's Well That Ends Well, Act I., Sc. 3.*

Lafeu. ————: I have seen a medicine
That's able to breathe life into a stone;
Quicken a rock, and make you dance canary,
With sprightly fire and motion; whose simple touch
Is powerful to arrise King Pepin, nay,
To give great Charlemain a pen in's hand
And write to her a love-line.
—*All's Well That Ends Well. Act II., Sc. 1.*

This "medicine" is a charming "lady doctor."

Archidamus. We will give you sleepy drinks, that your senses, unintelligent of our insufficience, may, though they cannot praise us, as little accuse us.

—*Winter's Tale, Act I., Sc. 1.*

Narcotic, doubtless opium as a decoction mixed with wine.

Camillo. Sir, my lord,
I could do this; and that with no rash potion,
But with a ling'ring dram, that should not work
Maliciously like poison:
—*Winter's Tale, Act I., Sc. 2.*

Reference is elsewhere made to the poison given to work a long time after.

SHAKSPERE IN MEDICINE.

Florizel. Preserver of my father, now of me;
The medicine of our house!——
—*Winter's Tale, Act IV., Sc. 3.*

Abbess. Be patient: for I will not let him stir,
Till I have used the approved means I have,
With wholesome syrups, drugs, and holy prayers
To make of him a formal man again:
—*Comedy of Errors, Act V., Sc. 1.*

Cordelia. What can man's wisdom do,
In the restoring his bereaved sense?
Physician. There is a means, madam:
Our foster-nurse of nature is repose,
The which he lacks; that to provoke in him,
Are many simples operative, whose power
Will close the eye of anguish.
Cordelia. All bless'd secrets,
All you unpublish'd virtues of the earth,
Spring with my tears! be aidant, and remediate,
In the good man's distress!—
—*King Lear, Act IV., Sc. 4.*

"Simples operative" here refers to hypnotics and anodynes.

Gonzalo. ————: you rub the sore,
When you should bring the plaster,
Antonio. And most chirurgeonly.
—*Tempest, Act II., Sc. 1.*

Costard. ————, no salve, sir, but a plain plantain!
—*Love's Labor Lost, Act III., Sc. 1.*

When Moth refers to Costard's broken shin, Armado thinks it a riddle and calls for l'envoy meaning a salve. Costard sees no riddle, no enigma, no l'envoy, declaring that there is "no salve in them all." He wants but a plain plantain for his wound.

Nurse. Is this the poultice for my aching bones?
—*Romeo and Juliet, Act II., Sc. 5.*

(*To be continued.*)

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EDITORIAL.

GREETING.

With the receipt of this issue our subscribers will have passed another mile post in their journey through life. Some will have had a successful year, been prosperous and content. Others, unfortunately, will look back to a year of hardships, little work perhaps and less pay. And thus it has been and ever will be. To the successful, prosperous and content, greeting. To those who have met reverses and disappointments, our sympathy and best wishes for the year just born.

CURETTAGE.

By curettage is meant the act of removing granulations, foreign matters, incrustations, etc., from normal or other cavities in the body, as well as from abnormal growths. The instrument used for this purpose is shaped like a scraper or spoon, and is called a curette. This simple procedure lends great aid in a large variety of disorders and is very easy of application. The list of diseases in which the use of the curette is indicated includes chronic and indolent ulcers, sinuses and fistulas, old granulating wounds, tuberculous disease of the bones and soft parts, carbuncles, malignant postule, glanders, actinomycosis, and diseases of the bladder and endometrium.

Chronic Ulcers and Old Granulating Wounds: The treatment of these conditions must be directed to subduing the chronic inflammation which may be present, removing all causes for sepsis, improving the local circulation, promoting absorption of the surrounding infiltration, and to encouraging cicatrization. Most all of these indications can be met by a single application of the curette; the thorough removal of the septic material and unhealthy granulations, reducing the inflammation, improving the circulation and thus promoting absorption of the infiltration, and, finally, establishing asepsis. When large surfaces are to be curetted, it is best to administer a general or a local anesthetic, on account of the severe pain produced by the curette. After curettage, the wounded surface should be dressed lightly with some simple solution or powder with a few thicknesses of sterilized gauze under the bandage.

Sinuses and Fistula: In order to induce a cure it is necessary to remove, or at least divide, the thickened lining of these tracts by a cut running the entire length on one side of the sinus or fistula, and to thoroughly remove the unhealthy granulations by means of the curette. They should then be treated like any other open wound, by simple packing of iodoform gauze, or by keeping the parts distended with a drainage tube. Sinuses connected with disease of the spinal or pelvic bones are usually very rebellious to any form of treatment, and it is often necessary, to reach the deep-seated cause, by wide incisions leading to the bone.

The curette here proves of excellent service in removing the original focus.

Tuberculous Disease of the Bones and Soft Parts: The removal of the tubercular foci by the curette after wide incisions have been made exposing the diseased parts is the most satisfactory method of treatment. The diseased bone, the surrounding soft parts, if involved, as well as infected synovial membrane and sheaths of tendons, must be completely removed, otherwise the operation will prove ineffective.

Carbuncles, Actinomycosis and other Infective Granulamata, as a rule, yield to the liberal application of the curette. The usual moist antiseptic dressings should be applied and renewed frequently.

In Adenoids of the Pharnyx: It is conceded by most rhinologists, that the operation of adenotomy is best performed with the assistance of the dull curette. Little or no pain or reactive inflammation results from this method, cocain anesthesia being quite sufficient to control the pain. In children, however, it is better to administer a general anesthetic. It should be remembered that a condition of atrophy is often brought about by the too liberal use of the curette in these cases, and the advice given by some authorities to remove every particle of adenoid tissue appears to many minds somewhat unsafe.

Curettage of the Uterus: It is usually very difficult to effectively treat diseases of the endometrium with pure therapeutic measures. In simple cases the application of various therapeutic agents will often bring about an alteration of the uterine mucous membrane for the better. In severer cases the cervix must be dilated, and the diseased endometrium entirely removed with a sharp curette. The more thorough the curettage the more likely is a cure of the condition to occur. In cases of abortion, metrorrhagia, fungoid degeneration of the uterine mucous membrane, this treatment is especially indicated. The operation must be performed with full antiseptic precaution for fear of causing salpingitis or peritonitis. After the curettage thorough irrigation of the cavity of the uterus with some antiseptic solution should be performed, after which a strip of iodoform gauze may be left within the cervical canal for purposes of drainage.

It is well to remember that in cases where the womb is soft and friable from recent inflammation, or where an acute flexion of this organ exists, the curette must be employed with the greatest care, to avoid perforation of the uterine wall. Operators should be warned against the indiscreet use of the curette. In the hands of the inexperienced, or careless, the curette is an instrument of great danger, more especially in operations on the uterus.

Curettage in Cases of Bladder Tuberculosis: Guyon favors thorough curettage of the diseased vesical mucous membrane in bladder tuberculosis. The bladder is opened through a superpubic incision, the interior of the bladder illuminated and the tubercular portions curetted. The entire mucous lining of the organ has been excised in this way and been followed with improvement in a number of cases. Tuberculosis of the bladder, usually being a disease secondary to similar diseases of the prostate or of the kidney, reoccurrence of the trouble has been the rule.

The Curette as a Diagnostic Agent: By means of the curette portions of diseased tissue may be obtained from different parts of the body and then submitted to examination by the microscope to determine a positive diagnosis.

PROPHYLAXIS OF TYPHOID FEVER.

THE difficulty of prophylaxis of typhoid fever is that the source of infection is unknown until numbers have the disease. Through ignorance, carelessness or often prejudice, no attempt at all, or, at best, but a feeble attempt is made to guard against infecting the neighborhood where sporadic cases occur.

Typhoid fever is essentially a disease of the rural districts, and from these endemic cases are our cities infected. It is, therefore, clear that well directed efforts must be made to abolish these endemic foci, and by a campaign of education and the compulsory use of modern hygienic measures control the source of infection. The number of cases and the mortality in certain cities varies. In 1904, the mortality in Savannah was 9.7, and in Pittsburg 124.7 per 100,000 inhabitants; while during the Spanish war there were in the United States Army 20,738 cases, of which 1,580 died. As we know typhoid fever to be a preventable disease these figures are appalling, and clearly show the necessity for rigid inspection and isolation of all cases; but laws alone will not avail; the people must be made to understand the sources of danger, the absolute necessity for thorough disinfection as a protection to themselves, as well as to those at a distance. They must be made to realize that the disease is communicable from germs found in the feces and urine of all persons suffering from it, and that these germs continue to be deposited throughout the course of the disease and for months after convalescence. That these germs, when deposited upon the ground, in cesspools or outhouses, find their way into the local water supply, from whence they are carried to remote parts to work sure destruction. That not only is the disease communicated through water, but through ice, raw vegetables, dust, flies and by personal contact.

There is a disposition on the part of some to question the part played by water in the conveyance of typhoid germs, but there have been so many epidemics traced to infected water, and the presence of the germs demonstrated, that it were criminal to persuade the layman that infected water plays an unimportant role. Milk is an excellent culture medium, and is easily infected through washing the cans or containers with water containing the germs. In a few hours the germ will develop in milk in sufficient numbers to infect many persons. The bacillus will live in ice for months, and this is another source of infection. The pernicious habit of using cracked ice in water, on butter, etc., should be tabooed. Articles of diet and beverages may be in contact with ice, but should always be in securely closed containers.

Uncooked vegetables are conveyers of the bacillus of not only typhoid, but other disease producing germs, through contact with the dejections from those suffering from, especially typhoid. Great care should be exercised, therefore, in protecting them while in the garden.

Dust is a source of contamination through the direct inhalation of live bacteria and by settling upon unprotected food. Flies, especially the common house fly, is a prolific source of communicating the disease. They crawl over the dejections on the ground, in outhouses, cesspools, etc., and deposit upon food, the hands or face the bacillus which clings to their feet, legs and wings; the food is eaten, and thus the germs find their way into the human system.

Personal contact, either with the patient or fomites, is a fruitful source of infection. Linen, bedclothes, dishes are apt to be carelessly left without disinfection, and through handling or use by others we have infection. All such articles should be made scrupulously clean at once after contact with the dejections or urine of patients suffering from the disease.

Prophylaxis will consist of the destruction of the bacillus in the dejections with 1 to 20 parts of phenol, 1 to 1,000 bichlorid of mercury, or 6 oz. of fresh chlorid of lime dissolved in one gallon of water, and one quart of this thoroughly mixed with each dejection and allowed to remain in contact one hour before emptying into outhouse. The exclusion of flies by mosquito netting or wire screens to doors and windows of the sick room, the kitchen, pantries or on the table. Personal cleanliness is important; the patient's body being thoroughly cleansed after each dejection, or urination, wherever the dejections come in contact with the body, and the water, as well as towels used for this purpose, disinfected in one of the above solutions. The linen, bed pan or commode, dishes, etc., should also be thoroughly sterilized by boiling in either one of the above solutions. The hands of the attendants should be thoroughly sterilized after each contact with the patient.

Health officers should be notified at once when typhoid is suspected, and the attending physician should work earnestly with such officers to prevent the dissemination of the disease. Only by heroic measures will we be able to succeed.

A SCHEME FOR THE PROPAGATION OF KNOWLEDGE IN PROPHYLAXIS AND HYGIENE TO THE PUBLIC.

In an article on Hospital Reform in the *Medical Record,* Oct. 27, 1906, Dr. Henry S. Stark makes a suggestion which should meet with the approval of all thinking people, more especially hospital authorities and physicians. The argument is that inasmuch as hospitals are supported by the city or State they should be made useful to the people who maintain them, through taxation, in other ways than merely places for the reception and treatment of those sick or injured. The treatment of the sick few should be but one of the obligations undertaken by boards of hospital management. In so far as the care of the sick poor is concerned, this is but one of the duties which should be theirs. To care for the indigent is praiseworthy from all points of view, but a greater duty should be to educate the people in all that may aid in the prevention of disease, for is it not far better to prevent disease than to cure those ailing? Surely not everyone who has to be cared for in our hospitals ever entirely recovers; never to have been ill is beyond question far better than to have partially, or even entirely, recovered from any ailment, from purely economical reasoning if from no other. To be ill is to suffer financial loss, entail privation upon other members of the family, to say nothing of the mental distress.

Now, wherein can the hospitals be of service in this most important matter? By making them the centers for the education of the masses upon all that relates to the prevention of disease and the maintenance of health. The hospital should become an auxiliary to the schoolhouse, for the care of the body is as necessary, at least, as the training of the mind. Let the hospitals be thrown open upon certain days or nights to the public, wherein they may receive this instruction from members of the hospital staff. Subjects of vital interest along these lines, assigned to those competent to handle them, and delivered to those in need of instruction—as who is not—in a manner to be interesting and in words to be comprehended by all, even the humblest. A wide range of subjects could be covered, general prophylaxis and hygiene, physiology of the various functions, and that all important matter of sexual hygiene. Separate days might be set apart for instruction to young men and women, boys and girls, if you please, for surely none need instruction more than does the youth of our cities. A woman physician could be easily found to lecture to the girls and young women on important subjects of the function of reproduction and the prophylaxis of sexual disease. Subjects which, alas, are tabooed in the average family. The same may be said of the need of such instruction to young men and boys, to whom men physicians could lecture. Much is being written about the perils of sexual disease, but one lecture, as outlined above, would reach more young people and do vastly more good than all the papers in all the medical journals appearing in years.

Let the Board of Education work with the hospital authorities in all cities to this end, and we will have better men and women, less sickness and poverty, and happier lives than now, while the people will be getting a profitable return from the expense in the maintenance of our hospitals, instead of, as now, the care of the sick alone, admirable as that is.

SKIM MILK AS AN ARTICLE OF DIET.

A pound of lean beef contains about 0.18 pounds of protein, and has a fuel value of 870 calories. Two and a half quarts, or 5 pounds, of skim milk will furnish nearly the same amount of protein and have almost the same fuel value as the pound of lean beef. Two quarts of skim milk have a greater nutritive value than a quart of oysters, and the nutriment in the form of oysters will cost from 30 to 40 cents, while the two quarts of skim milk will cost from 4 to 6 cents, or, on the farm, from 2 to 4 cents. An oyster stew made of one part of oysters and two parts of skim milk will owe its nutriment more to the milk than to the oysters. A lunch or meal of bread and skim milk is very nutritious, as the following computation shows:

Food material.	Amount	Estimated cost. Cents.	Protein. Pound.	Fuel value. Calories.
Bread......	10 oz.	3	0.06	775
Skim milk..	1 pt.	1	.03	170
Total....	....	4	0.09	945

The following lunch will serve for a comparison with the above:

Food material.	Ounces.	Protein. Pound.	Fuel value. Calories.
Soup..............	8	0.01	75
Beef..............	2	.02	275
Potatoes..........	2	....	100
Turnips...........	1	....	15
Bread.............	4	.02	300
Butter............	½	....	100
Coffee............	..	....	....
Milk..........	1	....	20
Sugar.........	½	....	55
Total.......	19	0.05	940

We believe that the cost of the above meal will exceed 50 cents, especially in New York City.

These tables show that the lunch containing nine different foods and costing 50 cents does not contain a greater nutritive food value than the lunch of bread and milk, which, under like conditions, will cost 10 cents.

The ingredients in our food which cost the most, which has the greatest physiological value, and which is most apt to be lacking in ordinary dietaries, is protein. Skim milk has nearly all the protein of whole milk. By the removal of the fat in the cream it loses half of its fuel value, but practically none of the protein. What is left has all the value of the whole milk for building and repair of tissue, for the making of blood, muscle and bone, and half the value of the whole milk for supplying heat and muscular power. When these facts are fully understood, skim milk will doubtless be more generously utilized. The above is in part taken from a very interesting paper on the "Choice of Cow's Milk," by J. Allen Gilbert, in the *Medical Record,* October 27, 1906.

Gilbert also declares that the milk of slow creaming, and slow churning, milk whose cream does not rise so quickly to the surface, is more perfectly emulsified, has fewer and smaller fat globules and, therefore, is easier of digestion and assimilation. This may account for the gastric and intestinal disturbances some experience in drinking whole milk, for it is a fact that diarrhea will follow in numerous cases where whole milk is freely used. In such cases, it were wise to use skim milk or milk from which a considerable percentage of the fat has been removed. It does not follow that diluting whole milk, or adding water, will correct this tendency to diarrhea, for the fat would still be retained.

These are suggestions well worthy of the consideration of the physician when prescribing milk for the sick or invalided, as well as those in good health who use milk as an article of diet.

PROPHYLAXIS IN CEREBROSPINAL MENINGITIS.

It would seem that whatever may assist in preventing this dread disease should receive extensive publicity. Ostermann, in the *Deut. Med. Wochenschrift,* No. 11, 1906, editorially mentioned in the *Journal of the American Medical Association,* October 13, 1906, states that precaution should be observed for at least three weeks after the individual contact with these cases. Close contact, kissing, use of common utensils for eating and drinking, mingling with crowds on the street or in houses; in speaking or coughing one should keep at a distance from other persons. While discharges from the mouth and nose should be deposited on rags which can be burned or, if handkerchiefs are used, these should be boiled for ten minutes, as should all infected clothing.

In hospitals patients should be isolated, while the physician and nurse should wear protective masks over the nose and mouth while in contact with the patient.

The offending germ, meningococcus, is short lived after leaving the body, and herein lies safety.

PAIN.

Nothing is more disastrous to the well being of man than pain. In certain forms of pain a narcotic only will answer, but these should be used with great caution and only as a last resort. Heat and cold will often serve as most excellent analgesics, a change of position, if in a limb, will sometimes suffice to relieve, or when pain results from exposed nerve terminals the application of fomentations will relieve.

To treat pain, however, is but to afford a temporary measure of relief, for it is but a symptom. The cause should be carefully sought for, and when found measures taken to remove or correct the disturbing element or functions. Gastric or intestinal disturbances are frequently associated with pain and can usually be relieved by lavage or laxatives. The pain of rheumatism or gout is ameliorated by careful diet, immobilization and elimination. Neuralgias by isolation, rest, stimulant embrocations or counterirritants.

Pain is but the danger signal, which should be regarded as an evidence of usually disordered function and treatment appropriate instituted.

SELF MASTERY.

The question of self mastery is one so little understood and so unusually practiced that its discussion opens up almost an entirely new field. Idealists, poets, essayists and ecclesiastics have dilated upon the necessity of self-control; and, unquestionably, its acquaintance would be altogether desirable, but we must seek an introduction through other channels than idealists, poets, etc. One must possess many almost impossible traits of character in order to be master of self: a consciousness of never having injured another; of absolute truthfulness; enjoyable relations with all men; a sublime faith in God and man; perfect health of self and his, wanting nothing which would conduce to his or others comforts; perfect mental and physical equipoise. Give us these—all of them, and more in fact—and we will admit the possibility of self mastery; with but one of these traits lacking and we must deny man this distinction. Stolidity indicates indifference—assumed or natural—not mastery of one's self. We very much doubt that man is so constituted in these strenuous times as to boast mastery of self. Heredity and environment preclude the possibility of such a character.

A COMMON COLD.

After all has been said and done, after all the new and improved remedies have been tried, we will come back to the Dover powder and the hot-mustard foot bath. If this treatment is applied at once when coryza is manifest, and the patient goes at once to bed and keeps warm, the result will be quite satisfactory and a cure effected. For every hour's delay, however, the cure is proportionately prolonged.

LONDON LETTER.

A MEETING called by the British National Health Society was held recently at University College, at which the question of the food supply of the country was fully considered. Sir Frederick Treves presided and made the principal speech, in which he vigorously denounced the apathy displayed by the British public in regard to the food supply. He declared that it was impossible to deny that to a large extent the appalling infant mortality was preventable, and that if we had a pure milk supply it would be reduced to a minimum. Sir Frederick further asserted that the absolutely reckless disregard as to the purity of our food supply was little short of a national disgrace, for which we were paying very heavily in ill health, disease and death. The question of the large infantile mortality which prevails in all the large cities of England is beginning to excite widespread alarm. A meeting has just been held in Liverpool to consider the question, and prominent medical and laymen took part in the discussion. It was decided that drink was a foremost cause, and that impure milk and unnutritious foods, together with unsanitary modes of living, were concomitant factors. That the curse of drink is growing in some parts of Great Britain would seem to be proved by the returns of the Registrar General published recently. These demonstrate the fact that alcoholism, delirium tremens, starvation and scurvy have increased in the past twenty years from 35.8 per million people living in the first quinquennium to 71.2 in the last twenty years. The health of Belfast is also arousing much anxiety amongst its inhabitants, and there, too, the principal citizens convened a meeting to debate the matter. From a medical and sanitary standpoint, the decision was come to that the high mortality, heavy incidence of consumption and of typhoid fever as evidenced by two recent epidemics of the latter disease, were due to the lack of control of the milk supply, wretched hygienic conditions of the elementary kinds and the general carelessness which prevailed in all questions relating to public health.

The London *Lancet* has published within the past three weeks an editorial discussing the causes of the high mortality of infants, and concluded that much of this high death rate was due to improper feeding, and especially to an inadequate and impure milk supply. Other contributing factors were suggested, the most prominent of which was the employment of married women, which now so largely prevails in all the large cities of Great Britain.

The question of sweated labor has been the reason for the holding of a conference in London, which concluded its sessions on October 26. At this meeting the employment of married women, both in factories and at home, was severely condemned, and it was shown that this custom must have a baneful reaction on the condition of the home and consequently on the health of the young children. There are many thousands of married women with large families in London who are compelled to work at starvation wages in order to bring the wage up to a point at which the family can just exist. Needless to say, by so doing the lives of their born and unborn children are seriously damaged. As for the milk supply, both medical and lay journals have pointed out for some time that Great Britain is far behind most other countries as regards supervision of dairy farms, methods of handling and of delivering milk, and precautions taken to ensure destruction of noxious germs. Such conditions naturally cannot fail to exert a most injurious effect on infant life.

The British Government has appointed another Royal Commission on vivisection. This commission commenced its sittings at the end of October. Reporters were not to be admitted, so that the result of its deliberations were not known for some considerable time. The prejudice against experiments on animals which exists in this country is confined to a comparatively small section of the community. However, what the antivivisectionists lack in numbers they make up in self-assertion and noise. Of course the great progress made in surgery during the past three decades has been due mainly to the knowledge gained by experiments on animals. The commission consists of ten persons, four of whom are vivisectionists and two more or less neutral. There are two somewhat prominent antivivisectionists who are medical men on the commission. It would be idle to speculate in regard to what may be the conclusions reached, taking into consideration the composition of the commission.

The *Lancet,* November 3, contains a communication from Dr. J. C. Ross, of Manchester, on the treatment of influenza by cinnamon oil. According to Dr. Ross this drug has a remarkable curative and remedial effect in cases of influenza. He prescribes 12 drops of cinnamon oil, repeating the dose in an hour; two hours after ten more drops are given, and then ten drops every two hours until the temperature has fallen to normal. When the temperature has thus fallen, the patient is given ten drops three times a day for a day or two. Dr. Ross describes the results of this treatment as magical.

A report just issued by the Asylum Committee of the London County Council shows that there has been a progressive lessening of the rate of increase in pauper lunatics through two consecutive years. There are still, however, no less than 25,000 pauper lunatics in London.

The Therapeutical Society of Paris recently devoted an evening to the study of the motor-car and its influence on health, when the following conclusions were arrived at: The immediate effect of the rapid passage through the air is to contract the blood vessels. This explains the bleached face which is so common a phenomenon among motorists at the close of a run. A period of expansion of these vessels naturally follows, and we thus have a phase of vasoconstriction, followed by one of vasodilation. It is said that the sport is good for the sick, but that the consumptive and alcoholic must abstain. Motor-car exercise is recommended for those suffering from gout and asthma, while nervous depression and complaints of the digestive tract are greatly benefited by "motor" treatment.

Dr. Osler, Regius Professor of Medicine at Oxford University, as well known in America as in Great Britain, has delivered the Harveian oration for this year. It would be superfluous to state that he acquitted himself well in the performance of this duty. Besides being a born orator, he possesses gifts possessed by few speakers of the present day—those of humor and originality. To say something new of Harvey is a most difficult task, but Dr. Osler surmounted all obstacles with ease. He took as a text for his address the growth of truth, and illustrated this growth by the career of Harvey, showing that the discoverer of the circulation of the blood was continually struggling for the advancement of truth, and that although he was somewhat despitefully used by his medical contemporaries, that posterity has done him justice.

THE USE OF X-RAYS AS A SOCIAL QUESTION.

By Cecil Kent Austin, M.D.,*

Paris, France.

When the early period of experimentation with X-rays had passed, it was seen that not only the superficial tissues but deep-seated viscera were affected by this new agent. It was thus found that intense reactions could be produced thereby in the retina, liver, spleen, thymus, spinal marrow, and nerves of the heart, without these reactions having any relation or proportion to that of the superficial tissues.

These facts did not appear to constitute a danger either to patient or physician, so long as the exposure remained within limits incapable of irritating the skin. But recent discoveries seem to show that although this may be true of individuals, it is not true as regards the race, as it has been found that X-rays cause sterility; *they produce sterility in males and females with a facility and safety that can only be looked on as an actual social danger, to which it seems urgent to call physicians' attention.*

Passing over the experiments that have shown that in this way small animals of various kinds can be rendered sterile without the slightest injury to their general condition, skin, sexual desire or vigor, we find that a similar effect can easily be obtained in men and women. Through simply being in the vicinity of an X-ray apparatus during radioscopy or radiotherapy, men have become sterile for a period of time that has not yet been definitely determined, but that may extend over several months. At the end of this time there is gradual return to the normal condition, and living spermatozoa are finally discovered in the testicular fluid.

This action of radiation is just as evident on the ovary as on the testicles, though in this case we have only the proof furnished by animals. It has been noted that the ovaries appear more sensitive to X-rays than the abdominal epidermis, which in these experiments showed no trace of irritation. The effect of the Röntgen rays may go so far as atrophy of both testicle and ovary, though whether this is final or not has not yet been elucidated; degeneration is more serious in the case of the ovary than of the testicle, and requires shorter seances.

The first inference from these facts is the pressing necessity of protection of the body, and in particular of the genital zones, in the case of physician and patient during the use of X-ray apparatus. The second is that this discovery is sure to open a vast field of action for unscrupulous charlatans.

When we consider that this method of producing sterility is painless and of easy application, leaves no trace, is accompanied by no cutaneous reaction, and is so effective that a few sittings only suffice to obtain a full result, and if again we consider that in quantities necessary to create a condition of total azoospermia, there is no effect on the general system, no fatigue, no prostration; and when, finally, we consider that the method does not diminish to the slightest degree the patient's virility, we are warranted in concluding that it is far the best Malthusian agent known.

Although it is probable that X-rays can produce permanent atrophy of the ovary and testicle, it appears to have been shown, at any rate for the testicle, that to accomplish this a large amount of the agent is requisite; so that it would not be difficult at all to produce at will a temporary condition only of azoospermia.

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* International Clinics, vol. II., p. 118-120.

A moment's consideration of this action of the Röntgen rays will convince every one of the urgent necessity of putting under proper control all applications of the X-rays to man. The law prescribes severe penalties for persons causing abortion, and for the patient that seeks it; but in the present state of our legislation any non-medical person resorting to this new practice can do so with impunity.

Up to the present time any one with the means requisite has been able to acquire the apparatus and use it, and it is to be feared that unless the law intervenes no great period will elapse before more or less shady offices are opened where under pretext of radioscopic examinations the two sexes will be reduced to a relative degree of sterility on a large and remunerative scale.

The question then must imperatively be surrounded by the necessary safeguards, the first of which, in view of the real social danger involved, will evidently be that every person not a physician in good and regular standing will be forbidden under serious penalties to use the X-rays in any form on his fellow-beings, male or female.

BUTTERMILK.

According to Bernhard Kohn, in *Amer. Medicine,* this by-product in the manufacture of butter has long been used by the laity in Holland and other European countries as an infant food. But it is only within recent years that its value has been recognized by the medical profession. The Dutch physicians, de Jager and de Mattos, were the first to call attention to it, and its praises have since been sung by Baginskey, Hubner, Salge, Stooss, von Massanek, Rensburg, Ramsey and many others. Its cheapness and universal accessibility recommend it for use among the poorer classes. The composition of buttermilk is as follows: Proteids 2.5-2.7 per cent., fat 0.5-1.0 per cent., sugar 3.0-3.5 per cent. Its sour taste and acid reaction are due to lactic acid fermentation. This is, on the face of it, far from being an ideal infant food; but for some unknown reason it is well borne by healthy infants, and can be successfully given to sick babies where all preparations of sweet milk have failed. The casein is already precipitated in a very fine, soft curd, which is apparently digested with ease. The lactic acid prevents bacterial fermentation. In spite of the low fat percentage, its prolonged use does not seem productive of rachitis or scurvy. The buttermilk should be obtained fresh from the creameries, and sterilized at once, to prevent further acid fermentation. It may be given pure, or diluted to varying extents, or, as is usually done, prepared somewhat as follows: To a quart of buttermilk is added a level tablespoonful of fine rice or wheat flour, and two to three heaping tablespoonfuls of cane or beet sugar. With constant stirring this is then slowly brought to a boil. It is then poured into hot sterilized bottles, stoppered with sterile cotton, and put on ice until needed. When the child's digestion warrants it, the buttermilk may be modified by the addition of cream and sweet milk in varying proportions. The mixture as here described has proved of special benefit in infantile atrophy resulting from chronic dyspepsia. It may also be given in acute conditions, after the usual cleansing of the gastrointestinal tract and withdrawal of food for 24 to 48 hours. Buttermilk has been found useful by Rensburg in all three forms of indigestion, namely, proteid, fat and carbohydrate intolerance. In the last form the flour should be omitted from the mixture. If fresh buttermilk is difficult to obtain, a condensed, powdered form may be used, several brands of which are on the German market.

PASTEURIZATION.

Bernhard Kohn, in *Amer. Medicine,* says that although this process is still used to a great extent in the preparation of milk for infants, recent authorities are showing a tendency to disapprove of pasteurization, and insist on obtaining a pure, fresh milk for feeding in the raw state. Perret has shown that milk contains ferments that play an important part in the digestion and assimilation of milk; these ferments are destroyed by pasteurization. Bergey has demonstrated that pasteurized milk, after the lapse of some time, will contain many more organisms than raw milk of the same age. He attributed this to the fact that pasteurization destroys the lactic acid bacteria. These organisms normally exert an inhibitory influence on the development of certain spore-forming bacteria, that are not destroyed in the process of pasteurization. Another point is that in raw milk, the process of lactic acid formation, by its smell and taste, give an indication of the degree of staleness of the milk. In pasteurized milk this indication is wanting, and a large bacterial content may be present without giving any evidence of this condition. Hence, the efforts of pediatrists and sanitarians are now directed toward the rapid delivery of a cleanly milked product, in order that this deceptive process of partial sterilization may be abandoned.

CEREAL GRUELS.

Perhaps one of the best ways of rendering the proteids of cow's milk more digestible, says Bernhard Kohn in *American Medicine,* is by the use of cereal gruels as diluents. By mixing barley, rice or oatmeal water with milk, instead of using plain water, the curd, when formed, is flaky and finely divided, and therefore is more readily digested. Many pediatrists formerly objected to these gruels, on the grounds that starch digestion is very imperfect in infancy, and only becomes developed towards the end of the first year. But investigations have shown that starch is much better digested in infants of all ages than was formerly supposed, and the practical experiences of many authorities prove that these gruels are well borne by the youngest babies. The dilution of cow's milk with rice, barley or oatmeal water, therefore, seems to be a safe and effective mechanical way of breaking up the caseinogen curd, and is to be recommended in preference to other methods that tamper with the chemistry of the milk. Some cases of carbohydrate indigestion will not tolerate this method, and then resort must be had to the other means.

M. **Kahn**, Leadville, Colo. (*Jour. A. M. A.*), calls attention to slow pulse as a symptom of latent or incipient gangrene in appendicitis. How often it occurs cannot be said with present data, but it has been so frequently met in his series of cases that in the last six he made the diagnosis before operation on this symptom alone. It is true that we sometimes see cases with tachycardia, but he cannot recall encountering bradycardia in a case of appendicitis that did not present gangrene. Of course, the normal pulse of the individual must be known to avoid mistake. He attributes the symptom to some ptomain absorption acting on the cardiac centers or ganglia, such as is not infrequently seen in jaundice and chronic digestive disturbances. It is not akin to the slow pulse of convalescence from some acute fevers, which is probably due to failure of reactive power or inanition. The importance of the symptom if it is found to be generally present can hardly be overestimated.

So long as the diabetic is allowed large quantities of carbohydrate food there is no object in giving opium, for under such circumstances he is hardly, if at all, affected by opium. The action of opium is, however, very powerful in cases in which the glycosuria has already been reduced to a minimum by abstention from carbohydrate food. Salicylic acid, on the other hand, acts best in slight cases of glycosuria and during the time when carbohydrates are permitted. It raises the power of assimilating carbohydrates not inconsiderably. In no case should salicylic acid or the products related to it be used continuously. There is, however, nothing to be said against their employment for a few weeks in the year in slight cases of diabetes.—**Professor von Noorden.**

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by **Franklin W. Barrows, M.D.**

THINGS PRESENT AND THINGS TO COME.

"Welcome ever smiles,
And farewell goes out sighing."

We bear no grudge against the good old year of 1906, which has brought us many good things and left us richer in experience and in the number of our friends, to all of whom we express our thanks for their courtesies and helps innumerable. And so, passing from one good year to another—a little reluctantly, to be sure, since the old year was a bit too short for everything that we thought of doing twelve months ago—we wish you all a Happy New Year, meaning, of course, a happier year, just as if we knew that this year could be better than any that have been before it.

The many friends of the Gazette will be glad to know that more nurses are reading the magazine every month, while many more are showing their appreciation of its services by writing us their approval or helping us with their kindly criticism. We shall try to recognize our increasing body of supporters by maintaining a high standard in the Nursing Department and making it increasingly useful to the profession. Will you help us by a little extra effort this year in the line of commendation, suggestion or reproof?

We have a number of good things promised to our Department. Dr. Lytle and Dr. Kidder will continue their very useful series of articles. Dr. Denslow Lewis, of Chicago, Miss Marie R. Jamme, of Minneapolis, Dr. John L. Heffron, of Syracuse, Miss Mary H. Tufts, of Farmington, Maine, Miss A. M. Fielding, of Woburn, Mass., Miss Harriet Fulmer, of Chicago, and Dr. C. P. Thomas, of Spokane, are only a few of those who have consented to write for the Gazette.

Finally, look at the Directory, in the advertising department. We hope that it will serve the convenience of many readers to whom such a list is inaccessible.

THE TRESPASSES OF THE NURSE.

The honest physician often finds himself hard pressed by unfair competition of the medical fakir on one side and the counter-prescribing pharmacist and nostrum monger on all sides. A new peril seems imminent according to excellent authorities at home and abroad—it is the nurse, "overtrained" or wrongly trained, who is tempted to step out of her sphere and assume the privileges of the physician. The situation and the remedy proposed are described in the following editorial from the *Journal of the American Medical Association:*

> Physicians have enough examples before them to emphasize the danger of putting the power to practice medicine into the hands of those who will use it wrongly. Some physicians, however, do not seem to learn this lesson. J. Noir[*] criticises certain methods of instruction and certain manuals for nurses as having a tendency to encourage the production of illegal practitioners. He quotes

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[*] *Progrès Med.*, June 19, 1906.

passages from an English manual which support his contention, and reproduces the following resolutions which were adopted unanimously in the Congress for the Suppression of Illegal Practice: "1. Every attempt at initiative on the part of nurses, attendants, orderlies, etc., should be reproved by the physicians and by the hospital administration. 2. The programmes of nursing schools and the manuals employed should be limited strictly to the indispensable matters of instruction for those in their position, without going extensively into purely medical matters which might give them a false notion as to their duties and lead them to substitute themselves for the physician. 3. The professional instruction of orderlies and nurses should be entrusted exclusively to the physicians, who only can judge what is necessary for them to know. 4. The physicians charged with this instruction should never forget, in the course of their lectures, to insist on the possible dangers of the initiative on the part of orderly and nurse and on the serious responsibility that would be incurred in case of accident by the persons thus inconsiderately stepping out from their proper sphere." These maxims should certainly be borne in mind by the physician who has dealings with the nurse, as a matter of simple justice to her that she be not encouraged to take steps that are not in her province.

That these matters will receive the careful attention of the framers of training school curriculums we have no doubt. We also believe that an impartial study of the situation will show that the nurses are not so often the aggressors—caught in the act—as the victims of an ill-contrived and unfortunate system. If the nurse were not receiving a large part of the training and confidence that naturally belong to the medical student and the interne she would not now assume this role of usurper which so seriously threatens the peace of mind of her medical "superiors" on both sides of the ocean. Give her the doctor's education and, of course, you must in all fairness give her the doctor's job—if she wants it.

It is time for the educators to give the medical student a chance and let the poor probationer have a rest for a while; and she needs it because she has plenty of trouble to learn all the long words and the dreary lingo that her "trainers" think it necessary to inflict upon her. She doesn't care to be a doctor—just a nurse.

When the curriculum has been simplified, enriched and shortened by the casting out of the several abominations that now encumber it, the intelligent nurse may find that she can learn all that is really essential without serving for three years at hard labor for her "alma mater." And if, perchance, said "alma mater" grows so attached to her daughter that she cannot be persuaded to spare her in less than three years, she may, at least, give her a liberal allowance of time and freedom during the last year for the practice of hourly and visiting nursing in the homes of the sick—a most essential part of her training for the profession of private nursing.

The Congress for the Suppression of Illegal Practice has taken the right action in demanding a reform in the hospital as a necessary condition of further reform in the two professions. We are not in sympathy, however, with the third resolution, which demands that orderlies and nurses must be instructed "exclusively" by the physicians. We have known many matrons and nurses of experience and good judgment whose opinions on the formal instruction of pupil nurses were saner and more practical than those of their medical associates. As a rule, whenever you find a pupil nurse groaning and lamenting over long lists of unpronounceable and unintelligible stuff you will find a young and ambitious doctor "lecturing" to her, perhaps an hour a week, and fondly hoping with her to conquer the whole realm of bacteriology, organic chemistry or osteology! Turn your class over to a sensible woman who understands nursing and knows a lot about girls, though she may be very deficient in most of the prevalent ologies, and she will make better nurses, especially if she has had the good fortune to have served an apprenticeship of a few years as a schoolma'am, than any medical tyro that ever lived.

And if this wise woman is not too wise in her own conceits to counsel with the older and more representative doctors of her acquaintance, we shall find in her training school the ideal conditions for the best training with the least fuss. Then we shall hear little or nothing of the trespassing of the nurse on the preserves of the physician, for the nurse when she graduates will have learned what she is and what she is for—two very essential things for her to know.

THE BEST NURSE IS MORE THAN A NURSE.

The *Boston Transcript,* in the course of a very appreciative article by C. W. Hurd on the Boston Instructive District Nursing Association, has this to say in commendation of the manifold service of the visiting nurse:

"The modern instructive district nurse is as different from the old-fashioned nurse as much as any modern scientific instrument differs from the rude one of antiquity. The nurse of olden time was all devotion; the new one is devotion plus science. Her womanly sympathy has not been sacrificed, but has merely been differentiated into other and practical means of helping. Excepting surgery, there is no branch of medicine which she does not practice, under medical supervision. She works in connection with the board of health, the physicians of the out-patient departments of the hospitals, the dispensaries and even private practitioners. She furnishes the connecting links that would otherwise be wanting to many allied activities. Upon her the hospitals have very largely in many ways to depend.

"If her healing and associative functions are perhaps the more important now, that position may at some near day be assumed by the instructive. The most practical work, with little question, is the educational; and worth a great deal more than the pound of cure offered by the specialist-after-the-fact may be the nurse's ounce of prevention. In the medical profession a notion has prevailed until recently that the doctors or hospitals or nurses were to open up shop and await the arrival of the maimed, the halt and the blind. The new idea appears like a leaf out of business philosophy; if the sick don't come fast enough, go out after them. So they open up new fields and employ the familiar follow-up system of trade. The disposition to do this has been greatly quickened, no doubt, by the recognition of the social bond. The sick person is seen to be not a sick individual merely, but a sick social member; he must be cured and got upon his feet and set to work without delay, for his own sake and the sake of all.

"In doing this sort of work the nurse is a most important factor, a hygienic agent of high value, who in the domain of distress at once alleviates, discovers and prevents. Where she nurses one sick person, she instructs in the same visit from one to a dozen or more well persons, in the family and house, how to protect themselves and others from disease. She educates the people who otherwise cannot or will not learn it in regard to what agencies of all kinds exist for the preservation and recovery of health. She persuades them to help themselves. She spreads, in a word, the emancipating truths of modern hygiene and becomes the commercial agent or drummer of hygiene. . . .

"Not the least valuable function of the district nurse, and perhaps particularly the obstetrical nurse, is to put a damper on the "shyster" doctor and to educate the people to get the best medical advice they can afford. This they can do if they only knew it, because reputable physicians would charge them fees running all the way from $10 down to nothing, while the "shyster" doctor demands $25 or $30, and even then may perform his work badly. In fact, "stirring up" the doctors is no inconsiderable part of the nurse's work, taking the year through. Many physicians, not the best, will not call the nurse in, as they are afraid she will see their shortcomings and perhaps report them."

It must be encouraging to the women who do this kind of service to the community to have their usefulness so well recognized as it is by the readers of the *Transcript.* In spite of some considerable distrust and friction between the nurses and the medical profession, every intelligent observer knows that good nursing is entirely distinct from the practice of medicine, and that it is good for the doctor as well as for the patient. And let the nurse remember that good nursing, in the broadest sense, is the only kind that is good for the nursing profession.

A BRITISH NURSE IS OFFENDED BY THE AMERICAN ARTICLE.

The Hospital prints the following criticism by "B. S. A.," who has had six months' experience in America, and has escaped to her own land.

Is our cousin right or wrong? Perhaps she is one of those smug individuals who find life impossible beyond the bounds of her own "snug little island." Perhaps even Boston would seem rude to her. Her comments, even if undeserved, may prove profitable reading for us, after all:

I have recently returned from America after having some six months' private nursing there. During that time I met and nursed for about fifteen medical men, and, with one or two exceptions, I found them "lacking" in all that we look for in our own doctors, *i.e.,* refinement, courtesy and consideration for their nurses; in fact, these qualities were conspicuous by their absence. I cannot say that I was any more impressed by the American nurse. From my experience the almighty dollar plays a much more important part in her life than whether her patient will recover or not. Patience, self-sacrifice and accommodating oneself to circumstances, which we are taught in our hospitals, are qualities which I found unknown to the American nurse. In fact, her one prevailing thought seemed to be how long her case would last, and how many dollars she would get, and would she be able to buy that duck of a hat and costume and go away for a week's holiday when she left her case? I also very soon realized the disloyalty which exists between American doctors and nurses. It is no uncommon occurrence for the medical men to inquire even of the servants, if they like the nurse, and I have known of one or two instances where the nurse was dismissed because the cook or some other maid did not like her. I also heard of two cases where nurses, not liking the doctor, prevailed upon their patients to change and have a doctor of their own choosing. No wonder that poor "American Nurse" found our doctors and nurses disappointing, for they naturally displayed qualities rarely met with in doctors and nurses of her own country.

THE NURSES' JOURNAL OF THE PACIFIC COAST.

BEGINNING with January, 1907, this journal will be regularly issued as a monthly. The nurses of the coast States have long needed a publication of this character, and we may safely predict that this need will be adequately met. As a quarterly the *Journal* has made an excellent record, an earnest of still higher achievements under the new and better conditions.

MEDICAL SUPERVISION OF CHILDREN.

AT the second meeting of the newly founded British Child Study Association an important discussion took place on "The Medical Supervision of School Children." Dr. Macnamara, M.P., presided, and said that he considered the necessity of bringing the trained nurse and physician into direct touch with the child in the slum school of inconceivably more importance than the problem of the religious formulary to be imparted. The present education bill takes a most admirable step, he said, in providing for the compulsory medical inspection of children on admission to a public elementary school. These views were confirmed by the other speakers.—London Correspondent, in *Jour. of A. M. A.*

NURSING WITHOUT MODERN APPLIANCES.

By Miss Charlotte A. Aikens.

The young graduate nurse who in the practice of her profession finds herself miles from the city, with a desperate case on hand, and without the common everyday appliances she has been accustomed to depend on while in the hospital, is apt to experience a feeling of dismay akin to helplessness. If she has not provided herself with a fairly complete equipment she is very apt to feel that she has nothing to work with. Or she may make the mistake many other nurses have made, of demanding that a family to whom every dollar is precious, go into debt to provide her with the appliances to which she has been accustomed and which may possibly never be needed again in the same home. Unfortunately, or fortunately, our hospitals supply appliances so lavishly that there is little need for a nurse while in the hospital to use her ingenuity or learn to do without the best appliances on the market.

Many of the best lessons some nurses have ever learned have been given by country doctors, who had been forced by stern necessity to "use something else" because the thing needed was not at hand.

How to give a douche without a bed-pan or douche-pan when the patient must not be moved off her back was taught by a country doctor in this way. The nurse was instructed to secure an ordinary agate iron wash basin, to raise the patient's hips by a cushion made of a couple of bed quilts folded and placed on top of each other. By a careful placing of these cushions the basin was inserted so as to catch the flow, and the douche was given with just as good results as though the best douche-pan on the market had been used.

Every nurse should carry with her a rubber sheet, and out of this an improvised Kelly pad may quickly be made by rolling into one edge several layers of newspapers folded and pinning the sides together near the bottom.

Where it is necessary to measure urine, and no graduate glass for that purpose is available, an ordinary pickle bottle may be divided into ounces by pasting strips of paper on the outside, using the ounce graduate glass, which every nurse carries, as a guide.

A chair turned upside down answers admirably as a backrest when pillows are skillfully used in combination.

A shawl thrown over a set of clothes bars has done good service as a screen; or a line strung across the room over which a blanket is hung, or even an umbrella, can be used to protect the patient from draught while the room is getting a good airing.

When it becomes necessary to give a patient a hot pack, or induce sweating, a dozen hot bricks heated in the oven, or even hot stones, will do just as good work as the same number of rubber hot water bottles.

Sterile dressings for a baby's cord, or for any wound, may be secured by cutting the dressings, packing in a small glass fruit jar and exposing the jar, with cover off, to steam in a common kitchen steamer. Vulva pads may be sterilized by wrapping in paper and baking in the kitchen oven.

When it becomes necessary to relieve the pressure on any part and no rubber air cushion is at hand, a very satisfactory substitute may be made with a piece of cotton batting and a two-inch roller bandage. A thick, firm ring of cotton batting should be made, care being taken that the opening is barely large enough to allow a small roller bandage to go through. One end of the bandage is tacked to the ring and firmly rolled over it till the whole is covered.

A doctor who spent the first twenty years after graduation in country practice tells the following story of how he improvised a catheter. He had been out on a long trip, over muddy, rough roads, to see a patient who was unable to void urine. He passed the catheter himself and gave instructions to the neighbor who was acting as nurse how to use the catheter if it became necessary before he came again the next day. He left his catheter with her and started back to town. When about four miles from town a man came rushing out of a house and frantically urged him to come in and do something for his wife. Here he found another patient who was unable to void urine, and his catheter was several miles back where he had left it with the other patient. Night was coming on. It was four miles to his office. His horse was very tired. He did some pretty hard thinking while he was tying his horse and walking up to the house. He found a patient with a very badly distended bladder, which all simple measures failed to relieve. Suddenly a bright thought struck him. He called for a goose's wing, usually to be had in every farm house. Selecting one of the largest feathers he stripped the quill, singed it, cut off the small end, cut an eye near the large end, catheterized the patient, and drove back to town with the self-satisfied feeling that comes from duty done under difficult circumstances.

FRANKLIN'S MORAL CODE.

SILENCE—Speak not but what may benefit others or yourself; avoid trifling conversation. Order—Let all things have their places; let each part of your business have its time. Resolution—Resolve to perform what you ought; perform without fail what you resolve. Frugality—Make no expense, but do good to others as yourself; that is, waste nothing. Industry—Lose no time; be always employed in something useful, but avoid all unnecessary actions. Sincerity—Use no hurtful deceit; think innocently and justly; and if you speak, speak accordingly. Justice—Wrong no one by doing injuries, or omitting the benefits that are your duty. Moderation—Avoid extremes; forbear resenting injuries. Cleanliness—Suffer no uncleanliness in body, clothes, or habitation. Tranquillity—Be not disturbed about trifles, or at accidents common or unavoidable. Humility—Imitate Jesus Christ.

CLINICAL DIAGNOSIS FOR NURSES.

By Albert T. Lytle, M.D.,
Buffalo, N. Y.

(*Continued from page* 745.)

THE translucency of the sputum varies from perfect transparency through many grades to complete opacity.

The color of the sputum runs all the way from colorless through various shades of white, yellow, green, red, brown and black. The white is usually due to an admixture of air or of leucocytes. The yellow colors are imparted by the presence of pus corpuscles. The fainter shades of green are also due to pus, although decomposed blood as well as bile may produce them. More brilliant greens are from the slow destruction of blood in the lung, seen in certain pneumonic sputa; they may also be due to the presence of bile. The brown colors are most often caused by blood which has remained a long time in the lungs. Certain shades of pink are very frequently seen in the white sputum that is so characteristic of that grave condition, edema of the lungs. The well-known "prune-juice" and "rusty" sputa are brownish red in color, and they are indicative of serious lung conditions, seen typically in pneumonia. Another reddish sputum, described by writers as "currant jelly" sputum, is said to suggest one of two diseases widely differing in their course and prognosis, cancer of the lung and hysteria. The presence of fresh blood in the sputum makes bright red or red-streaked expectoration, the color depending upon the quantity of blood present. The production of blood-streaked sputum is one of the tricks of the malingerer who wounds the gums and cheeks to secure the blood. It may also follow violent attacks of vomiting or coughing, may come from eroded buccal and tonsilar surfaces, or from slight rupture of blood vessels in larynx or pharynx; it is very frequently present in certain stages of pulmonary tuberculosis. When the sputum is nearly or quite all pure blood, whether the quantity be small or great, such expectoration is described as "hemoptysis." Hemoptysis points to involvement of lungs, of heart or of blood vessels, and to diseases of the blood. Black sputum, varying from speck-flecked to almost pure black, is ordinarily due to the presence of previously inhaled soot or other dark colored substances; or it may be due to gangrenous destruction of the lung tissue.

Normally a small amount of transparent colorless mucus may be expectorated without pathological indication, for those who live in an irritating dust or gas laden atmosphere often expectorate a small quantity of mucus from the slight catarrh produced by the special irritant. Otherwise anyone of the colors above mentioned has a pathological significance and a certain diagnostic value; especially is this true of the colors due to the presence of blood; hence, in observing sputum, note of its color should be made and any unusual change particularly toward the red should be reported to the physician at once.

In some diseases in which the pulmonary tree is involved, masses, shreds and pieces of membrane are often expectorated, even casts of terminal bronchial twigs have been found in sputum; consequently, the presence of odd-looking masses should be recorded. Sometimes such masses are imitated by the numular purulent clumps expectorated in cases of chronic bronchitis and pthisis.

For purposes of description sputa are distinguished as:

"Mucus" when glassy and transparent or whitish-grey like white of egg, generally tough and somewhat consistent.

"Muco-purulent" when consisting of mucus and pus in varying proportion, the latter recognized by its yellowish-green color and its want of transparency, its distribution through the mass in opaque yellowish streaks or in large flocks or balls.

"Purulent" when consisting of almost pure pus, of somewhat rare occurrence.

"Serous" or "watery" when particularly fluid, consisting of blood serum more or less frothy.

"Frothy" when containing so much air in bubble form that it resembles soapsuds.

"Viscid" when thick and gelatinous, adhering to the container sometimes even if it be turned upside down.

"Numular" when the muco-purulent masses sink to the bottom of the container and assume tablet or coin-like shapes.

"Bloody," "rusty" or "prune-juice" when containing greater or less amounts of blood more or less decomposed.

DIGESTION.

The digestive apparatus, consisting of a hollow tube about 28 feet long, begins at the lips and ends at the anus. This marvelous tube, not of uniform size throughout its entire length, is divided into ten parts, the construction of each of which is slightly different while the function of each varies considerably from that of any other part, and yet the sole object of the canal is to properly prepare solid and liquid foods for use by the organism. The tube is lined from beginning to end with a membrane which in a way resembles the outside skin; in fact, among the lower animals it is possible to turn the individual inside out, so that the alimentary canal becomes the outside skin while the skin becomes in turn the digestive tract, each doing equally well the work formerly done by the other.

Evolution teaches that "it is a general law that food can be introduced into the living system only in a fluid state. While plants send forth their roots to seek nourishment from without, animals, which may be likened to plants turned outside-in, have their roots (called absorbents) directed inward along the walls of a central tube or cavity. This cavity is for the reception and preparation of the food, so that animals may be said to carry their soil about with them. The necessity for such a cavity arising not only from the fact that the food, which is usually solid, must be dissolved so as to make its way through the delicate walls of the cavity into the system, but also from the occurrence of intervals between the periods of eating, and the consequent need of a reservoir. For animals, unlike plants, are thrown upon their own wits to procure food. In the higher animals the alimentary canal is therefore a continuation of the skin, which is reflected inward, as we turn the finger of a glove" (Orton). Theoretically, at least, the food which has been ingested and digested lies until absorbed along with the waste to be execreted, quite without the body proper.

Among the lowest forms of animals there is but one opening into the body cavity through which must enter the food and from which must be discharged the unused materials. As the scale of animal development advances this common orifice is ultimately developed into two, an oral and an anal opening, between which the digestive tube is stretched. Attached to this canal by various ducts which open into its lumen at different points in its extent, are a large number of glands, both great and small; the function of these organs is to pour into the canal digestive juices to aid in the proper preparation of the food for absorption by the roots or "villi," which are microscopic in size and which protrude into the lumen of this wonderful tube, being constantly bathed in the nutrient fluid. The glands also throw into this canal materials that are ready to be cast off as a part of the excrement.

In the walls of the alimentary canal are disposed muscles, whose contraction causes a movement of the contents along its long axis; this vermicular movement, similar to the progression of worms, is known as "peristalsis." At certain intervals are placed valve-like apertures which separate the important divisions of the canal and also prevent reverse flow of the contents. In the walls run blood vessels, lymphatics and nerves.

Beginning with the lips the important divisions, with the special organs attached, are as follows: "Mouth," with teeth, tongue and salivary glands; "pharynx;" "esophagus;" "stomach," with its cardiac opening and its "pyloric" orifice; "duodenum," into which pour the secretions of the liver and the pancreas; "jejunum;" "ilium," ending in a valve-like slit that opens into the "cæcum," from which leads the "appendix vermiformis" and the "colon;" the great gut, or "colon," ends in the "rectum," which is closed at its end by a muscular ring, called the "anus." Along the entire length of the canal, but especially in those portions beginning with the stomach, are innumerable glands, microscopic in size, which furnish digestive juices; there are also distributed throughout the same parts multitudinous "villi," or roots, for absorption. Roughly speaking, digestion is most active in those portions of the tract ending at the cæcum, while absorption is most active in those portions beyond the ilium.

Food may be considered to consist of solids and fluids; the latter practically means water, as the other liquids are fluid members of the different classes of solids. Solids are divided into: proteids (type, egg albumen), hydro-carbons (type, oils, fats), carbohydrates (type, sugar, syrup), and minerals (type, salt, iron).

Food taken into the mouth is crushed, more or less, fine by the teeth, mixed by aid of the tongue and cheecks with the "saliva" derived from the "parotid" and other "salivary glands;" it is then passed through the pharynx and the esophagus into the stomach. In the stomach the food-bolus is churned about with the "gastric juice," producing what is known as "chyme;" after preparation the pylorus opens at intervals, and the stomach discharges this material into the intestine. In the intestine the food receives the "bile" and the "pancreatic juice" along with, as it passes down the canal, the "succus entericus" or intestinal juice. The thin pultaceous "chyle" is emptied into the colon, where absorption takes place so rapidly that by the time the food has reached the lower end of the colon all those materials fit for use in the body have been abstracted; the food debris now becomes firmer in consistency; at intervals this firm material becomes excrement, is passed into the rectum to be thence discharged from the body through the anus as "feces."

This extremely important tract presents

many signs and symptoms of a gross character, the observation and interpretation of which are of great aid to diagnosis, prognosis and treatment.

(*To be continued.*)

200 Lexington Ave.

RECTAL FEEDING IN INFANTS.

By Miss M. Goodnow,

Superintendent Denver Maternity and Woman's Hospital,

Denver, Colorado.

Rectal feeding and medication is frequently an unsatisfactory procedure in adults, and has not commonly been used in children. A recent successful case may be of some interest and encouragement.

The baby in question was a male infant born Feb. 22, 1906. The delivery had been a normal one and the mother made an uneventful recovery. The child weighed at birth 7 pounds and 3 ounces. He was breast-fed. During the first three days he lost 11 ounces in weight, which is not at all unusual. The milk appeared on the third day and seemed sufficient and satisfying. The baby nursed well and regularly, had no colic, and was in every way a "good" baby. He continued, however, to lose weight, and this was the only alarming symptom the case presented. During the third, fourth and fifth days he lost 13 ounces more; yet the mother's breasts seemed well filled and the baby quite satisfied. We began feeding the mother such things as are supposed to encourage the milk supply, but with no effect.

At this time the child began to refuse to nurse, yet had no colic and did not cry more than a normal amount. A test was made of the milk, which proved it poor, both as to quality and quantity; the baby was therefore put on a diet of modified milk. He did not seem hungry and could be induced to take but small quantities at a time. The bowel movements began to be green and slimy, and were somewhat constipated. The specialist who was called very frankly stated that he did not consider it a hopeful case. At the time of his first visit the child took occasion to have a slight convulsion. Mustard baths were ordered and rectal feeding suggested. The mustard baths helped, but did not control, the convulsive seizures. The rectal feeding we looked askance at, as every nurse knows how promptly a baby of this age expels anything introduced into the rectum. We gave albumen water, made with the white of an egg added to two ounces of water. The quantity ordered was an ounce every three hours. This is an enormous quantity in proportion to the size and age of the patient, but, to our surprise, was fairly well retained. After one or two trials, a little more persistent effort succeeded in having every drop retained. Undoubtedly the low general condition and tendency to constipation assisted very materially.

We continued the rectal feeding for three days, during which time there was practically no difficulty about it; the child still lost weight, but less rapidly. The convulsive attacks persisted, but did not increase in intensity, and the child's general condition seemed slightly better. The body temperature during all this time had ranged from 97° to 99°. We decided to try modified milk by mouth in addition to the rectal feeding, and succeeded in giving four to six drams every two hours. This was kept up regularly day and night, as the rectal feeding had been. After a day, the amount of milk was increased to an ounce and the rectal feeding stopped. One dram of milk of asafœtida in half an ounce of water was given by rectum to control the convulsions; this was well retained and effective.

About this time the loss in weight had stopped, but a gain did not begin until we were able to increase the amount of food. This was done shortly and, by the beginning of the second week of its life, the baby was making a daily gain. It was five weeks old before the birth weight was attained, but continued to thrive, and is to-day alive and well.

In this instance, while the rectal feeding was far from satisfactory as a means of furnishing sufficient nourishment, yet it tided over a critical time, and fanned the feeble flame of life till Nature came to our rescue. It furnished the one small thing which was needed to save the day.

We have not since had occasion to use rectal feeding in an infant, but have several times given our medication that way. We find that cool solutions, slowly given, will almost invariably be retained if the nurse will hold a folded napkin against the anus for a few minutes. We have given even brandy this way with success. It is certainly worth a persistent trial in cases where it is indicated.

THE ALLEVIATION OF THE DISCOMFORTS FOLLOWING ANÆSTHESIA.

The trustees of the Lakeside Hospital Training School for Nurses offered a prize of $75 for the best essay on this topic by members of the senior class. The three essays ranking highest in this competition are printed in full in the *Cleveland Medical Journal* for July, with a well-earned editorial commendation.

We are glad to reprint the greater part of the prize essay, by Florence G. Ashton, and to offer it to our readers as a reliable guide to the management of these perplexing cases.

The after-treatment of every surgical operation consists in rest. It is most essential to prevent the ligatures giving way, and to lessen the likelihood of irritation of the stomach, and vomiting. The patient frequently feels a great deal of distress following the administration of ether, some of which can be relieved, so aiding to give the one needful thing—perfect rest. . . .

The position of the patient in bed must be one that is unconstrained. If a limb has been operated on it should be elevated on a pillow to lessen the danger of hemorrhage, the weight of the clothes removed by the use of a cradle. In abdominal cases, a roll under the knees will relax the abdominal muscles, and remove the strain the patient makes to hold up her knees. Pillows of all sizes and kinds are invaluable to give the perfect rest desired. One or two small ones may be placed in the hollow of the back, larger ones should be used to support the back when the patient is turned on her side; others may serve to relieve aching shoulders, buttocks, etc. A rubber ring is sometimes a great comfort.

Some patients, while semi-conscious, become very violent. Restraint should be only exercised while the effects of the ether are passing off, and then only to the extent of preventing them falling from the bed, or tossing about. A blanket may be pinned across if necessary, a gag inserted to prevent biting the tongue, and the knees bandaged to prevent injury. In gynæcological cases hypodermic injections of morphine, with or without atropine, are frequently given.

A dazed condition is common after ether; the patient may feel a lost, sinking sensation, and may be relieved by moistening the lips, stroking or bathing the forehead with alcohol solution. I have noticed that speaking to a patient by name or smoothing back her hair, has sometimes helped the patient to realize her surroundings, and to convey the comforting thought to her dulled senses that she is being watched and cared for. Other cases may continue for some time in a quiet sleep, and then exhibit more or less marked signs of cerebral excitement.

The vomiting following ether is the most dreaded after-effect, some fortunate few escape entirely. The majority suffer from vomiting from six to twenty-four hours, some few for several days, even a week. The head should be lowered and kept as still as possible. The least strained position for the patient, while vomiting, is lying on the side with the body slightly flexed, or on the back with the knees drawn up, resting on a pillow. While unconscious, vomited matter may be accumulated in the pharynx, and be inhaled or obstruct the breathing. Or it may enter the larynx or trachea with the same result. These chances are lessened by the withholding of solid food for some hours before the operation. When this accident occurs, the jaws should be opened, the head turned to one side, and the shoulder raised, thus aiding the removal of the obstruction. If these measures are ineffectual, the doctor should know at once, as tracheotomy might be necessary. The patient should not be left alone until she has regained the control of the muscles of her throat, so that vomitus could not slip back. She should be encouraged to "spit it out," and then have her mouth washed out. Hypodermic injections of atropine before the operation help to lessen the amount of mucus secreted.

A variable degree of irritability of the whole digestive tract is the common result of anæsthesia—especially in cases of abdominal section. Vomiting and nausea are rather increased than diminished by drugs, food and drink. They should be withheld until the toxæmia of the ether has passed. The treatment is rest for the stomach, with the exception, in some cases, of giving slowly a teacupful of hot water. This may be promptly thrown up, but it will wash out the stomach, and may give a little relief. A regular lavage may be necessary to wash out an accumulation of mucus in the stomach. Various applications to the stomach, as ice, or a mustard plaster, or spraying the stomach with ethyl chlorid have given relief. The inhalation of acetic acid or vinegar is also good. In more prolonged cases many things have been tried with varied success; a little black coffee, brandy, aromatic spirits of ammonia, ipecac, hyoscin, chloroform or sugar, tr. of capsicum. Cocaine gr. ¼ every two hours for five doses has been successful in very severe cases. Tincture of iodin in a little water at half hour intervals. Morphine will sometimes relieve and sometimes aggravate the trouble.

Hysterical vomiting, following in about 1 per cent. of abdominal sections, may subside by itself. Morphia given in large doses allays irritation and induces sleep. Some slight attention to the wound has often stopped the prolonged vomiting.

Thirst and dryness of the mouth, which is often a troublesome feature, may be relieved to some extent by frequent bathing of the face and hands with alcohol and tepid water; by washing of the mouth with cool water, boracic or listerine solutions, not so cold as to cause the teeth to ache. A gargle of hot water when they can take it. Small pieces of gauze laid on ice, then placed over the lips. Pellets of ice may be given the patient when the vomiting has ceased. If the thirst is extreme, normal saline is given subcutaneously and by rectum. When water is started by mouth it is given in small increasing doses, very hot, to settle the stomach. . . .

Pain, that hinders the needful rest, may be due to many and various causes. The tightness of a dressing may cause impaired circulation, the edge of a plaster cast may be pressing into the flesh, causing a great deal of pain. Bed-sores may be prevented by keeping the patient and bedding clean and dry, the linen smooth, and the pressure removed from one part to another. Aching arms, legs, and back may be rubbed with alcohol or chloroform liniment, and given a gentle massage. An aching head may be relieved by ice-cold compresses or the application of an ice-bag. The eyes sometimes burn and ache and may be protected by a shade or dark glasses. Cold compresses may be applied to the eyes, or they may be irrigated with tepid boracic and saline solution. The lips may have been burned by the ether or chafed by the compresses used to relieve the thirst. Cold cream or cocoa butter will quickly give relief. The tongue is sometimes bruised and swollen from the use of the mouth-gag. Boric solution mouth-douches quickly relieve the inflammation; these may be followed by a drop or two of alboline on the tongue.

Gas in the bowels is a very distressing and quite frequent trouble, as the muscular walls of the intestines, sharing in the patient's weakness, are relaxed; peristalsis is diminished. This condition can be relieved by the passing of the rectal tube, by turpentine stupes to the abdomen, by turpentine enemata, by carminatives, and by catharsis.

Hiccoughs occasionally occur during the first few hours after an operation. In mild cases they respond to "holding the breath," the administration of hot water, ice, heroin, carminatives, or the application of mustard paste to the epigastrium. In more severe cases tongue traction is tried. Morphine or atropine are given hypodermically with good results.

Sleeplessness is not uncommon. It may be helped by sponging the palms of the hands, the arms and legs. A hot drink, a rearrangement of the pillows, fresh air, fresh linen on the bed, or the luxury of an entire fresh bed, would often secure a good night's rest, without resorting to hypnotics.

The evacuation of the bowels is brought about by catharsis and enemata as soon as possible, according to the operation.

Ether frequently leaves some irritation in the urinary tract, due partly to the lessened secretion by the kidneys, and the concentration of the urine. When it occurs, hypodermoclysis and enemata will give some relief. After a certain period of time, according to the operation, if the patient is still unable to void, micturition may be brought about by a warm steaming bed-pan. The sound of running water will often help. Hot water poured over the pubes, or hot compresses applied will often prove effectual. The injection of one-half pint of warm water to the rectum, the administration of sweet spirits of nitre, drachm I every half hour, or if there is no objection to the patient sitting up the assumption of that posture may have the desired effect, remembering that the presence of another person is often an inhibitory factor. These, failing, catheterization must be performed. . . .

As some patients recover from the anæsthetic they become very much depressed over the length of time required for convalescence, or over what they know or conjecture has been done in the operation. The nurse must keep her patient's mind at ease, using great tact in not allowing her to hear any disturbing news, and note her condition by unobtrusive observation instead of questionings. . . .

The state of profound unconsciousness, with its characteristic complete relaxation of the muscular system, moist skin, loss of special senses, contracted pupils, slow, deep respirations, conjunctiva insensitive to the touch, may alter suddenly. The respirations must be closely watched, as the heart may continue to beat after they have ceased. Artificial respiration must then be started immediately, and maintained with no cessation until breathing is restored. First, however, the position of the tongue must be observed. If it has slipped back, so causing the asphyxia, it may be pulled forward with the fingers or forceps, then by pushing the lower jaw forward and upward, a recurrence of the mishap is prevented.

The nurse should keep the symptoms of adverse changes in mind, so as to recognize them at an early stage. She should not make the mistake of trying to relieve a trifling ailment, when it is only a symptom of a serious change impending, which will require all her efforts to ward off. She must also remember that the patient may often hear, understand, and afterwards remember what is being said, and yet be unable to make any motion to show her consciousness.

"EXPERIENCE is a grindstone; it is lucky for us if we get brightened by it and not ground."

"DON'T wait for extraordinary opportunities; seize common occasions and make them great."

"DON'T brood over the past nor dream of the future, but seize the instant and get your lesson from the hour."

MEDICAL ZANZIBAR.

Dr. Nicholas Senn's letters from African localities have proven so very interesting to our readers that we make an excerpt this month from his letter to the *Journal of the American Medical Association*, under date of June 5, 1906.

Zanzibar is a sultanate of East Africa under British protection. The island is near the African coast, the channel separating it from the mainland, being only twenty-seven miles wide at its narrowest point. It is fifty miles long, on an average thirty miles wide, and has a very mixed population of 150,000, of whom nearly one-half live in the city of Zanzibar. The island is of coral formation, having a thin layer of sandy soil with a layer of clay between it and disintegrating coral rock. In the interior, low wooded hills break the monotony of the scenery; vegetation everywhere is luxuriant. It is the island of clove-tree groves and the cocoa palm flourishes wherever it is planted. The prosperity of the island has suffered since slavery was abolished in 1895. Thousands of the old slaves remain with their masters, but all children born since the act abolishing slavery came into force are free. At one time Zanzibar was the greatest slave market in the world. This vile business was conducted chiefly by Arabs, many of whom accumulated great wealth by stealing, buying and selling slaves. The site of the former slave market is now occupied by the fine cathedral of the English church and the Universities Mission Hospital. About 150 whites, 5,000 Arabs and 10,000 Eastern Indians make up the foreign population.

HOSPITALS.

The city of Zanzibar has three hospitals and a leprosery.

St. Joseph's Hospital.—This hospital is the oldest, largest and most influential. It is under the care and management of twelve Sisters of St. Joseph, with Sister Lucie at the head. Sister Lucie served her order fifteen years in America, and has been connected with this hospital in her present capacity for many years. These sisters are at the same time in charge of the leprosery. The original cost of the hospital, built twenty years ago, was about $30,000. It is a large, square, solid two-story building on the beach facing the harbor, with a small garden in front of the main entrance It has accommodations for forty patients who are divided into three classes. The hospital has ten pivate rooms, and each occupant pays $2.50 per day. The patients of the second class are placed in small private wards, and pay what they can, and the third class is made up of the charity patients, almost exclusively blacks, who by far outnumber the pay patients. The demands made on the hospital by the sick poor make the struggle for existence often difficult. The hospital has no regular staff, but any physician is privileged to attend his own private cases. Dr. Friedrichsen, the only German physician residing in Zanzibar, has the bulk of practice in the hospital. The hospital has neither an operating room nor instruments. If an operation is to be done, it is performed in the patient's room or ward, and the physician must make the preparations and bring his own instruments. No wonder that under such circumstances physicians refrain from performing capital operations when they are not urgently indicated.

Military Hospital.—The military hospital consists of several one-story cottages within the enclosure of the barracks. It is in charge of the government physician, Dr. McDonald, who at the same time is the health officer and supervises the battle against bubonic plague and other tropic diseases. The hospital has thirty beds. It is intended for the government officials and soldiers, but its doors are also open for the native sick poor, including women and children. The wards are plainly furnished, but clean. The nursing is in charge of an English trained nurse. She makes this hospital her headquarters, but does private nursing besides. In her hospital work she is assisted by orderlies of the hospital corps. Like the other hospitals in Zanzibar, there is no room set aside for operating. The most interesting feature of the military hospital is the small bacteriologic laboratory in which blood examinations are made and from which the battle against recurrence of the plague is conducted by Dr. McDonald. The last serious invasion of Zanzibar by the plague has stimulated the government and health authorities to resort to energetic measures to prevent a repetition of the epidemic. The war of extermination on rats has been waged since the epidemic made its appearance, and is now in active operation. Every day 1,000 pieces of bread, cut in the form of small squares and charged with an arsenical preparation, are distributed all over the city in places frequented by rats. The government, besides, pays a small amount for live rats caught and brought to the laboratory. From 200 to 300 rats are secured in this way every day. The spleen of every rat is examined microscopically for the plague bacillus. At present only three-fourth of one per cent. of the rats are found to be infected. This precaution against one of the most dreaded diseases of the coast is timely and will minimize the risks of future recurrence. During the prevalence of the disease Haffkine's serum was used on a large scale and contributed largely to the limitation of the extension of the disease and in cutting short the duration of the epidemic.

The Universities Mission Hospital.—This hospital, the most modern one in Zanzibar, has room for thirty patients. It is located adjoining the cathedral of the Church of England. It is in charge of Dr. Francis Charlesworth, who has lived in Zanzibar twenty years. The patients are cared for by five trained English nurses. The private rooms and wards are comfortably furnished and are kept scrupulously clean. The central court and porticos of the two-story substantial building add much to the comfort of patients by the free admission of the sea breeze. Most of the patients are blacks, who are cared for by the mission. The operative work is light, as the natives, who are not often affected with surgical diseases, have a strong aversion to operations. In the absence of an operating room proper, a room on the first floor is cleared and made use of for this purpose. Dr. Charlesworth, in his long experience, has never seen a case of appendicitis or carcinoma among the negroes.

Thania Topan Hospital.—This is a veritable *lucus a non lucendo.* Many years ago a wealthy East Indian merchant, by the name of Lewa Hadji, made a donation of about $50,000, to be expended in the building of a hospital for the blacks, and to be known by the above name. A building on too large a scale was commenced, and when the money gave out it was never completed, and the unfinished structure remains as a silent witness of lack of foresight and good judgment of those who had charge of the fund.

Zanzibar Leprosery.—The Zanzibar Leprosery is a government institution, located in the country, about two miles from the center of the city. It consists of six one-story stone cottages, roofed with corrugated iron, and a few native huts made of sticks and palm leaves, all in the same barbed-wire inclosure. The huts are occupied exclusively by women. The buildings occupy the summit of a low wooded hill, surrounded by several low, marshy places, excellent breeding grounds for the anopheles. The entrance door is kept locked so as to prevent the wandering away of the inmates. The institution is managed by the Catholic Mission, and the patients are taken care of by five sisters of the St. Joseph's Hospital, who spend the day here, but return to the hospital in the evening. In their absence order is maintained and the needs of the patients attended to by native helpers employed for this purpose. A physician visits the hospital at stated intervals or when his services are required. The number of inmates at this time is 47, 24 men and 23 women, all negroes. The youngest patient is a girl 15 years old. Among the patients of both sexes I noticed several who, from their appearance, were near to or over the seventies. The anesthetic and tubercular forms are about equally represented. Many affected with the anesthetic form had lost their fingers and toes. Several were nearly blind, two had marked facial paralysis, and one, a man advanced in years, who had suffered from the anesthetic form for twenty years, was insane. His eyes were staring, and the muscles of his face, more especially the labial, were constantly twitching. The type of insanity was happy and hilarious; the patient laughed and talked alternately and gesticulated wildly with his mutilated hands. I was somewhat astonished to find that the sexes were not separated, men and women mingling freely with each other. The wards are clean, but the furnishings are of the simplest, cheapest kind. Segregation, in a strict sense of the word, is not enforced on the island. So far as I could ascertain, if a leper is found, he is apprehended and sent to the leprosery. The exact proceedings for commitment I could not learn. The location of the leprosery is bad, as it is in a very malarial surrounding, and some of the sisters have contracted a severe form of malaria, including black-water fever, which has proved fatal more than once. The lepers themselves appear to be almost, if not entirely, immune to malarial infection. The leprosery should be on the nearby seacoast, where the patients could enjoy the sea breeze and surf bathing. The grounds should also be large, to give those who are able to work outdoor employment, which would not only exercise a good influence on their mental and physical condition, but would also contribute something to the financial support of the institution.

A HEALTHFUL hunger for a great idea is the beauty and blessedness of life.—JEAN INGELOW.

A SHORT time since a man with an idea was called a reformer. Now he is referred to as a "muck-raker."

THE STORY OF THE VISITING NURSES IN THE PUBLIC SCHOOLS OF CHICAGO.

By MISS HARRIET FULMER,

Of the Visiting Nurse Association, Chicago, Ill.

(From The Juvenile Court Record.)

ALIVE to the preventive and remedial work which a trained nurse might do in the public schools, the Visiting Nurse Association, several years ago, offered the services of its nurses, in the capacity of health officers. Since that time these nurses have gone quietly to the schools in the congested districts, receiving from the teachers the names and addresses of children excluded or remaining away on account of illness. Each child was followed to its home and its conditions ascertained—whether living quarters were unsanitary, whether they had insufficient food, whether contagious diseases existed, if other members of the family were still in attendance at school. There is only a small percentage of developed cases of tuberculosis in the schools, but in the cases of glandular and articular cases, wounds were dressed, surgical dressings provided, and in the suspected cases advice and instruction were given. However, this was but a small part of the real work done by the nurses. In their quiet crusade against dark, unsanitary living quarters, in their constant preaching of cleanliness, fresh air and sunshine they have probably done more than any other Chicago workers in the prevention of the spread of tuberculosis. They feel that it is much better to *prevent disease* than to fight it, especially when one is sure of being able to *prevent* it, and not at all sure of the cure. During the year more than 100 families have been induced to move to cleaner and better quarters, and over 300 cases of predisposed and incipient cases have gone to special doctors and dispensaries.

In every school there are children who are losing the benefits of school by needlessly prolonged absence due to exclusion, or because of some physical handicap, of hearing, eyesight, etc., conditions which are, we regret to say, too often due to the ignorance or indifference of the parents. That the school nurse has become a vital factor in reducing truancy cannot be denied; but her paramount and most effective work is the instruction, supervision and care of the child in the home excluded or kept out for any of the above reasons. The nurse's duty in a regular office at the school buildings, where the minor dressing, examinations, etc., were attended to, was the least effective and satisfactory of the work done. In one school this procedure became a nuisance. The neighborhood began to hear of the nurses' work and mothers with children not of school age, adult men and women came for treatment and free medicine, to the great annoyance of the principal. These people thought the school had opened a free dispensary, and although the plan was given up months ago they are still coming there for the nurse. The nurses who have been in the school work longest feel that the dispensary and examination room question must be handled wisely, and that all skin affections, sore eyes, and kindred things should be treated at *home* and *not* at school.

One family of six children, suffering from a persistent case of scabies (common itch), had been out of school four months, and until the coming of the nurse no effort had been made to have these children properly cared for. These cases were put in the hands of a well-known skin specialist and with a daily visit to the home by the nurse the children were soon able to return to school cured. The visiting nurse in the public schools can truly be made a valuable adjunct to the system of medical inspection by preventing spread of contagion, and increasing school attendance.

The Chicago work has been given great commendation by the *few* teachers with whom the nurses have come in contact, and many letters have been written to the superintendent of schools asking that the nursing service be extended. The Visiting Nurse Association, having always the public welfare at heart, has sent its nurses to give this voluntary service, and would again be glad to do the work if put upon a *recognized* plan. In one school, in a year, 2,160 surgical dressings were done by the nurse, and on Saturday the same dressings were done in the home, the entire expense of this being borne by the Visiting Nurse Association. In another school 308 heads were treated for vermin, and 42 skin cases of children excluded, where no effort was being made to have the cases treated. Those most deeply interested in this work are the nurses and teachers, and they feel that the service in Chicago has reached a period beyond the one of simply "*permitting*" the nurse to do the work.

The following is taken from the editorial page of the Chicago *Evening Post* of May 24th:

> Any one who wondered at the wisdom of associating visiting nurses with the public schools should give a day to become acquainted with what they are doing. One day will be convincing and the doubter will go home an ardent supporter of the cause.
>
> The visiting nurse has indeed come like an angel of mercy to the school districts, where her presence was most needed. Living itself has taken on a different aspect. It is a new idea among these hard-worked, poverty-stricken people that sunshine and cleanliness are worth while and that it is possible for them to have wholesome rooms and to be in good health.
>
> The advice of the nurse associated with the big school building carries a weight of authority with it and the teaching spread throughout the school reforms public opinion. In each of the five schools the nurse has a dressing-room and surgical supplies.
>
> During the last month reported the 24 nurses treated 447 cases which otherwise might have been left to chance for recovery and which in the meantime probably would have scattered disease far and wide. In addition to the school cases 999 visits were made to homes by the visiting nurses. These brought them in contact with a still larger circle of children to whom the visiting nurse seemed a being from a higher sphere.
>
> Along with the regular duties of the visiting nurse in caring for sick mothers and the helpless bedridden and working for the prevention of tuberculosis, Miss Fulmer has urged the inspiration of children to help toward better conditions.

The Chicago Clean City League was originated by Miss Fulmer with the purpose of organizing the children. It now is two years old and its numbers include hundreds of boys and girls, and the prized button is eagerly sought for. Its platform reaches from the garbage can and waste paper in the streets to the homes of the children and a child's care of his own person. The visiting nurse distributes the button to any child who asks for it, and she is the one to whom they may go in time of trouble.

This spring Miss Fulmer and her associates formulated a series of suggestions which were printed and distributed among as many school children as could be reached in the district of the visiting nurses and were sent abroad with the hope of reaching still more. The circular is addressed from the Visiting Nurse Association of Chicago and reads as follows:

How to Be Healthy This Summer.

To the Children of the Public Schools:

1. If possible, bathe the whole body every morning.

2. Wash the hair every two weeks.

3. If vermin should get in the hair, be sure to tell the visiting nurse right away, and she will give you something to cure it.

4. Clean your teeth after eating. Toothbrushes will be furnished by the Visiting Nurse Association.

5. No boy or girl need be without soap, towels or wash cloths. Tell the visiting nurse and she will give them to you.

6. Be sure the water you drink and the food you eat are kept in a clean place.

7. Sleep in a room where you have plenty of fresh air.

8. Wear clean underclothing.

9. Do not put your fingers in your nose or mouth or rub your eyes with your hands.

10. Do not drink tea or coffee.

11. Help your parents to keep your home clean.

12. Take special pride in seeing that your small brothers and sisters are clean and tidy.

13. Join the Clean City League for boys and girls and do all you can to have the garbage put in the right place. League buttons will be furnished upon application to the visiting nurse.

14. Boys and girls can do more than grown people to make Chicago the cleanest and healthiest city in America.

15. Window boxes and flower seeds will be given to any boy or girl who will care for them.

Dear Children: The visiting nurses will be personally grateful for your help in enforcing the above rules, which are made in a spirit of friendly interest. Very sincerely and faithfully yours,

HARRIET FULMER.

As simple as these suggestions seem to many who read them they are precepts which must be repeated over and over again among the uncared for children of the poor. Daily bathing is thought by many more enlightened to be a waste of time and of water.

And even in the schools in the best neighborhoods nothing is more dreaded than the mischief which follows upon unkempt hair and the scalp and skin diseases. So important has become the matter of clean teeth that the public schools of Germany have special dentists to look after the children.

Occasional meetings are held by members of the league who report concerning the work they have done. Even the crippled children of the Tilden School have become interested, sending in accounts of their efforts to live up to the principles of the Clean City League. Tooth brushes, soap and wash cloths are distributed free by the visiting nurses.

This spring quantities of flower seeds were given out in the same manner and any child may obtain them on application. In August Miss Fulmer has planned to have a flower show, when prizes will be distributed to those who have made a success of their gardens or window boxes from the seeds which she gave them.

The visiting nurse has become a part of the necessary equipment of the public school in which she has a hearing. Whenever a teacher has reason to believe that a child needs attention she speaks to the nurse, and the nurse in her turn can do what the old-time visiting doctor could not do. She can visit the home of the child, or send some one from the association, and at once establish her beneficent mission in the family.

Cleanliness and care of the injured or defective child must be taught, and if material help is needed the visiting nurse knows in what direction she should make the wants known, and to whom to go for immediate aid.

With the long vacation the summer outing problem presents itself. During the week a mother with five little children asked for a place in the country where at small cost she could rest and recuperate her health. Thus from all sides press the duties of the visiting nurse in the wide sphere which she has cre-

ated for herself, and public interest and sympathy for her cause will do much to cheer her on her way.

L. M. McC.

The effective work done by the nurses in the public schools, as a means of eradicating tuberculosis, has its good results demonstrated daily.

The largest proportion of these children visited live in disease-breeding surroundings, houses dark, damp and dirty, and with their scant food, are certainly objects of fertile soil for the first germ of tuberculosis that comes their way. Thus with all our efforts the spread of this disease still goes on. Medical inspection and nurses in the schools are a step in the right direction, and commendable as it is we are still at the wrong end of the ladder, when with all our instructions and preaching and disinfection, we still send these little underfed children back to the filth and dirt of the unsanitary tenement.

We are not prepared to say whose responsibility it is to wipe out these disease-breeding spots, but if because of their existence tuberculosis costs the state millions of dollars, would not the state be fulfilling its function in demanding that the owners and agents of these buildings cease to make thousands of dollars at the cost of the lives of our city's poor?

This may be irrelevant, but a daily report of a school nurse leads me to draw the conclusion that tuberculosis and a predisposition to it among our public school children, would be better combated by preventive measures, in the shape of sanitary homes, and perhaps do away with many of the expensive problems that are confronting us.

To-day the Visiting Nurse Association is making daily visits to dress 50 open tubercular wounds of public school children. They have under constant observation more than 50 other predisposed children. In the report of one nurse for the past two weeks of 38 cases visited, the following tells its own story:

Condition of Homes.

Dark and damp	8
Dark and dirty	7
Clean and dark	9
Homes where former occupant had tuberculosis	6

Let us have the public school nurse by all means. Let us get to the root of things that make her necessary.

Report Showing General Line of Work of Nurses for the Year 1905.

Total number of patients	6,710
Total number of new patients	6,384
Total number of carried over from 1904	326
Total number of visits made	50,333
Total number recovered	2,493
Total number improved	1,540
Total number died	452
Total number sent to hospital	733
Tonics given	409
Prescriptions filled	268
Doctors sent	1,040
Garments given	1,204
Individuals given employment	88
Emergency nurses used	64
Servants used for laundry, scrubbing, etc.	46
Families given immediate relief	137
Linen loaned, including—	
Sheets	378
Rubber sheets	19
Pillow slips	363
Towels	64
Night dresses	243
Sick room necessities loaned, including—	
Wheel chairs	24
Air cushions	153
Bed pans	130
Cot beds	23
Mattresses	23
Fountain syringes	74
Hot water bags	53
Ice caps	10
Other articles	70

Surgical appliances furnished, including—

Crutches	22
Abdominal binders	2
Elastic stockings	10
Supporters	3

Reported to—

Home for Incurables	34
Bureau of Charities	290
Relief and Aid	163
Board of Health	104
Humane Society	3
Home for Friendless	31
Grove House for Convalescents	35
Other Societies	25

Nationalities Cared for Year 1905.

American	2,794
Armenian	1
Austrian	23
Belgian	4
Bohemian	80
Canadian	41
Colored	276
Cuban	1
Danish	34
English	101
Finn	2
French	65
German	846
Greek	10
Holland	22
Hungarian	18
Irish	957
Italian	310
Littish	22
Norwegian	145
Polish	542
Roumanian	13
Russian	328
Scotch	38
Spanish	1
Swedish	231
Syrian	12
Swiss	2
Slav	4
Welsh	5
Unknown	31
Total	6,710

BURNING OF THE AMERICAN HOSPITAL AND TRAINING SCHOOL FOR NURSES IN CONSTANTINOPLE, TURKEY.

THE progress of this institution from its inception to the present time has been well described by Mrs. Candace Wheeler in the article from which we quoted extensively in the October GAZETTE. All friends of this most beneficent enterprise were deeply disappointed to learn of the total destruction of the building and its equipment just as it was ready for occupation. In addition to our brief notice of this disaster, in our last number, we get the following facts from the New York *Evening Post:*

On the morning of August 27, two days prior to the announced opening of the hospital and training school, Dr. Carrington, Dr. Wheat and the superintendent visited the institution for an inspection. When they opened the gates to the great stone wall surrounding the hospital enclosure, nothing but a smouldering, blackened heap greeted their eyes. Iron bedsteads, surgical instruments, and all other metal appliances and fixtures in the building were melted together in one confused mass; the hospital had disappeared.

The fire was discovered about 9 P.M. by natives, who saw the flames issue from one of the lower stories. They aroused three attendants who were asleep in the building. These attendants, while attempting to remove to safety some of the valuable property, were arrested by the police under a misapprehension as to their identity, and thus were powerless to save anything.

The loss included all the furniture of the hospital and of the private living apartments of Dr. and Mrs. Carrington and their assistants; supplies of drugs recently received from London; valuable surgical instruments of every kind and description; a fine medical library collected by Dr. Carrington, and a large collection of archæological specimens.

Among those who suffered personally besides Dr. and Mrs. Carrington were Dr. Arthur Wheat, of Manchester, N. H., who is temporarily assisting Dr. Carrington, and Miss Van Anderson, superintendent of the new hospital. Dr. Wheat and Miss Van Anderson lost practically all their personal effects.

According to a formal report that has been received by James S. H. Umsted, secretary of the American Hospital and Training School for Nurses, in Constantinople, it is the desire of Dr. Carrington to purchase the site where the old palace stood, and rear upon the ruins of the first hospital a finer and more important institution. The present location of the hospital is in Stamboul, on top of a hill overlooking the Golden Horn and the Bosphorus. It has a magnificent view, and is in the heart of a densely settled district. The cost of this ground is estimated to be from $10,000 to $15,000. Efforts will be made to raise the funds for its purchase and for the construction of a new building. The board of directors of the institution, which is independent of sectarian control, consists of the Rev. Dr. Henry O. Dwight, John Beverley Robinson, the Rev. Dr. Charles H. Richards, Edwin H. Baker, the Rev. Dr. Charles C. Creegan, Dunham Wheeler, Ernest H. Abbott, James S. H. Umsted and W. B. Howland. Brown Bros. & Co., No. 59 Wall Street, are the bankers for the institution, and through them all funds are received for this medical enlightenment of Turkey.

Those who know anything about the zeal and perseverance with which Dr. Carrington has been actuated during his ten years of work in Marsovan and Constantinople will also understand why his plans for a new hospital and school contemplate a substantial improvement on the plant that has just been destroyed. The doctor has great faith in this movement and he inspires faith in his supporters. Since the fire he has visited London for the purpose of placing orders for new supplies and equipment, and is now in this country, where we hope that he will make a host of new friends for himself as well as for the good work to which he is devoted.

A NURSE ON HEALTH.

Reprinted from *The Hospital.*

THE blind cannot lead the blind. The sick cannot tend the sick; a nurse must be healthy in body and mind to fulfil her vocation. Her personal atmosphere should brace and quieten; she must have the composure of reserve strength, and this is not possible if she is living up to the extreme limit of her powers. Some, if not many women, in every busy hospital do their duty in the wards listlessly and heavily, without any real pleasure in the work and without the smile and word for their patients which make all the difference to them; and this because of utter weariness of body and spirit, not because of lack of interest in either work or patients. "Health is contagious as well as disease." We have often heard one in weak health say, "I always feel better when you come in;" but "I didn't like to ask you, nurse, you were looking so tired," coming from a patient who has suffered for want of some attention—though it is little meant as such—should come as an insult, or, at least, as a rebuke to the nurse. For she is there to be strength for her patient's weakness; to relieve, to lift burdens, not to obtrude her own.

Up to a certain point healthiness is ours to have or not as we will. The question is whether we think enough of what we owe to ourselves and our hospital in the matter. Every human being owes it to himself to keep as fit as possible. With lowered vitality comes invitation to disease, comes depression of spirits, comes, very easily, lowered moral tone. Life is difficult enough; we have no right to make it more so. And certainly a woman whose profession is that of nursing, an indispensable part of whose stock-in-trade is health, should not neglect the simple enough rules and precautions upon which her fitness for work may depend. That many of us do neglect these things there is no doubt. Tired when we come off duty, we take the path of least resistance, and lounge away the precious hour or two in our particularly small bedroom, when our whole being is calling aloud for oxygen, sunshine—sunshine at any price! On night duty we need more of bed than on day duty. The life is unnatural, the sleep less sound; we must have more rest. Instead of which some of us are frequently not more than five or six hours in bed, in preparation for our twelve hours' stretch of night-work. With regard to food—like other people—we eat too little of what is nourishing, too much of what is anything but nourishing, and most of us drink too much tea. It never seems to occur to us that this is, at least, hardly honorable, for, apart from what we owe ourselves, and apart from what we owe our patients, we owe much to our hospital. The attitude of mind is dishonorable, even where there is no actual evasion of rules. We have promised, in exchange for certain tuition and certain salary, to take on our shoulders a definite share of the work of the institution. We cannot carry out our part without our full health and strength. If this goes, we add to the work, instead of lessening it; and go it must if we deny ourselves the fresh air, sunshine, sleep, rest and nourishment which we need.

Often illness is unavoidable, from infection, or accident, or breakdown, or where those in authority have imposed an unreasonable strain; but quite as often it is distinctly avoidable.

The carelessness is wilful, or it is only thoughtless, but a nurse has no right to be thoughtless. *Noblesse oblige.* I am thinking as I write of one bright, clever woman, who began her training in a big city hospital, a few years ago. From the first, in spite of all argument, she treated her healthy body as if it were made of cast-iron, persistently took too little sleep, went out when she was far too fagged to walk, or stayed in when she needed fresh air badly, till she had the inevitable breakdown. It was slight at first, a warning; but things went on as before, and the second breakdown meant, after a long illness, a girl thrown on the world only half-trained in the profession which she really loved, and not fit to carry it on except in a very limited way. Ambitious for herself, she is left with no hope of reaching anything along the lines of hospital work, with no home, no income, no prospect even of having quite normal health again. A girl of great capability; who could most certainly, as far as it is possible to judge, have got through her training, with reasonable care of herself, and the proper husbanding of her strength.

I am not pleading for self-indulgence, for thinking constantly of our own bodily welfare, but for self-control. We can only save ourselves from revolt of our body by ruling it wisely. If we pay what is due when it is due there will be no arrears to make up with compound interest. This means self-denial, doing what is irksome, and doing it pretty constantly; but it is the old, inevitable exchange of losing our life to save it.

Hospital life is such a strenuous one; it is terribly engrossing, it sucks up every bit of us. But we have voluntarily sought it, and everything should yield, for the time being, to our fitness for living it well.

A FORMER QUEEN'S NURSE IN JERUSALEM.

FROM *The British Journal of Nursing.*

DEAR MADAM: It fell to my lot to be asked to go out with another Nurse to open up District Work in Jerusalem 1903-1906 among the Moslems and poor Christians, and I think that perhaps some account of my experiences may be of interest to your readers. There are a number of hospitals and charitable institutions, but no systematic District work had been done there. The method of District work we adopted was rather different to our English method in the Queens'. When we first went out we had to hunt up our patients, if we heard of any one being ill we went at once to see if we could help them in their trouble, and so by degrees they sent for us and got to know and trust us. We had a very nice Arab who introduced us to many patients and taught us their ways, which was a great help. If we stayed late in the evening at a patient's house some male member of the family would always see us safely home.

A great feature in the District work is teaching the women how to nurse their families which the better class of Arabs learn to do very intelligently. The District Nurse comes in contact with many nationalities, Syrians (or as they call themselves Arabs, Arabic being their language), Greeks, Russians, Turks, Copts, Abyssinians, Armenians, and also the Fellaheen (peasants) and the Bedouins—the true Arabs, nomadic tribes. There are English, Greek, French, German, Russian, and a few Syrian doctors to work under, which makes nursing somewhat difficult, so, of course, the more languages a Nurse knows the better she gets on. It is not an easy matter to make the patients keep to one doctor if they do not get well quickly. It is quite a usual thing to find that they have called in another medical adviser since your last visit, and they will meet you with two prescriptions asking you which is the best, or perhaps you find that they have taken medicine in a few hours which should have lasted two days. They have no idea of doing things quickly. For instance, if you want hot water for your patients it takes a very long time to heat, for they have only small charcoal braziers, so that while it is heating the nurse has to possess her soul in patience. There is generally only one small room for the whole family; the beds are mostly mattresses on the ground, with a quilt for covering. In some houses they are clean, but others are extremely dirty. Amongst the poor Moslems one often finds the houses are nothing more than cellars, the only ventilation coming from the door, but nursing amongst the high class Arabs is quite different. They have nice clean houses and beds, and the women are extremely intelligent. To keep in touch with the patients and their families it is necessary to visit them in a friendly way occasionally, but one must not proselytize, as a great number of the inhabitants of Jerusalem are Christians belonging to the Greek and Latin churches. We did not work amongst the Jews as they have their own doctors and nurses. . . .

The care of the children is a great source of anxiety to the nurses, the mothers have so little idea how to bring them up. They love their babies but show it by foolish indulgence and utter ignorance in dealing with them. The mothers want teaching how to care for their little ones and the nurses find it very uphill work. But it is not often that a mother wilfully neglects her children, this is the exception rather than the rule. We had one case brought to our notice. It was a litle girl of five years old, of Coptic descent and a Latin. Her mother left her husband who was a lazy man and drank and deserted her baby girl to go to another home and to profess the Moslem Creed. The child was in a sad state when brought to our house, very hungry and dirty, a regular little street arab. We tried to get her into one of the schools but there was no vacancy so I took charge of her with the help of our cook, a dear old woman from Bethlehem, until a home could be found for her. We clothed her and she became quite a happy little civilized child, very bright, lovable, and intelligent. We sent her to the Bishop's day school for girls. She had rather a sullen temper, but if we told her that the black demon was inside her she would tap her chest with her little finger, and after a few minutes say with a bright smile, "No, no, Sitt; he went away." It was during Lent when baby Miriam first came to us. I used to take her to Bishop Blyth's Church to Sunday evensong, and after the service the 51st Psalm was chanted. She quickly caught the tune, and used to sing it to me as we went home—she was very fond of music. Eventually it was thought best to send her to a Convent school belonging to the Sisters of St. Josef. She was only there a little over a month when she contracted scarlet fever and died in a few days.

A nurse is often not called to a patient's house until it is too late—the patient may be dying when she arrives, or the friends get tired of a long illness and neglect the patient, only sitting by expecting the poor soul to die. I had the wife of a Turkish soldier for a patient whom I found quite accidentally in a most deplorable condition; she was lying on a hard mattress on the floor in the corner of a small room parched with thirst and covered with flies, and her husband was amusing himself in another part of the room waiting for her to die; he did not mean to be unkind, but thought it was no good, and so left her in the state I found her. I took her to the German Hospital, where she died after a few days. It was a case of neglected malaria, and with proper treatment she would probably have recovered. She was a very beautiful Damascus woman, only 22 years of age.

It is part of the District Nurse's duty to visit the Moslem women's prison; we used to go once a fortnight to take them rice and cheese, which was a great treat, and if any prisoner was ill we went oftener. These poor creatures are a low and degraded type of humanity, with no idea of shame or sin. They have no occupation whilst in prison, which is very bad for them both physically and morally. When the Nurse goes she takes a few simple remedies with her as well as the food; they like medicines, as they are a change, and overwhelm her with requests. They have a fairly big room to sleep in, mats for beds and a courtyard to walk about in; they are not put in chains. The prison is full of unwholesome odors and dirt. The district work is under the Bishop in Jerusalem (the Jerusalem and the East Mission); it was attached to the Bishop's work by a lady now dead, who financed it for three years. Now it is supported by voluntary contributions. There is a good work for the future if only there were funds to support it. A doctor is much needed and would immensely strengthen the work, especially amongst the very poor. It is not always easy for the nurse to obtain a doctor's services when they are needed.

Jerusalem is very beautiful in the spring, the wild flowers grow in great quantities, especially the red anemones; the grass is green, and everything looks fresh. Later, all is dried up when the rains cease, and the country looks very bare and dry, but, notwithstanding, it has a great charm and beauty in its lights and shadows from the surrounding hills, and the gray rock and stone have a grandeur of their own. The moonlight nights and the loveliness of the sunrise and sunset are not easily described. The atmosphere is very clear, so that you can see a great distance and far objects look quite near.

E. S.

QUESTIONS OF THE NORTH CAROLINA STATE BOARD OF EXAMINERS OF TRAINED NURSES.

The following questions formed a part of the examination given at Charlotte, N. C., in May, 1906:

Medical Nursing.

1. What is sometimes one of the serious complications of measles? What can the nurse do to guard against this danger? What lasting injury is often caused by measles, and how can the nurse make this less liable to occur?

2. What is the seat of disease in dysentery? Name some of the symptoms. What precaution should the nurse take to render this disease less dangerous?

3. What is a tincture? A spirit?

4. Give some of the toxic symptoms of strychnia. Of arsenic.

5. Give the table of apothecaries' measures.

Obstetrical Nursing.

1. What is the second stage of labor?

2. If left to you to dress the baby's cord for the first time, how would you do it?

3. In case of post partum hemorrhage, the doctor being absent, what is the essential thing for the nurse to do?

4. Tell how you would prepare a patient for labor.

5. How do you distinguish true labor pains from the false?

Practical Nursing and Household Hygiene.

1. Give a definition of a contagious disease; of an infectious disease.

2. What precaution should a nurse observe when caring for patients suffering from communicable diseases?

3. Describe a *model* sick-room—location, furniture, ventilation and care necessary.

4. How do you give a cold sponge bath to reduce temperature?

5. Give formula for good, nutritive enema.

6. How do you prepare normal salt solution?

7. Describe a baby's first bath.

8. How would you prepare your patient for anesthesia? Name half dozen things that the nurse must always have ready for an operation in a private house.

9. What is the normal rate of pulse and respiration?

10. How do you arrange for a croup kettle, and what must the nurse look out for?

Invalid Cookery.

1. Define food.

2. From what source do we obtain proteids, salts and fats?

3. Why is a mixed diet advisable?

4. What articles of food would you exclude from the diet of an invalid? Why?

5. What is the source of starch?
    (a) Give test for starch.
    (b) Name the starch digesting enzyms, and tell where found.
    (c) Name six or more starchy foods.
    (d) What general rule should be observed in the cooking and eating of starchy foods?
    (e) What part do starchy foods supply in the human system?

6. Tell how you would cook oatmeal, grits and cornmeal gruel.

7. What is the best method of cooking white potatoes?

8. Give a recipe for a light and easily digested corn muffin.
    (a) Do you consider griddle cakes wholesome? Give reasons.

9. Name four easily digested albuminoids, not including eggs and chicken.
    (a) Give best method of cooking each.

10. What are sweet breads?
    (a) What care should be used in selecting and keeping them? How cook?
    (b) What part do albuminoids supply in the system?

11. Name the easily digested vegetables, and tell how you would cook them.
    (a) Of what use are vegetables in the system?

12. Are fats essential in a perfect diet? Why are lard, tallow, etc., unwholesome?

13. Why are fruits beneficial? Name the easily digested ones.

14. Does the addition of sugar to fruits increase their digestibility?

15. What are the chief ingredients in fruits?

A TRUE STORY WITH A LOCAL FLAVOR.

Gladys (age five): O Dorothy! did you know we've got a new baby at our house? It came yesterday. Dr. S—— brought it.

Dorothy (age five): No, I didn't. How nice! You know we had one at our house last summer—*but we take of Dr. C——.*—*Hospital Topics.*

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

Lung Gymnastics.—L. Sexton, New Orleans, in discussing the treatment of pulmonary tuberculosis, stated that if lung gymnastics were practiced by deep breathing for a limited space of time, three or four times daily, the lung tissue would be developed as is the right arm of the blacksmith.—*Jour. A. M. A.*

Emergency Ligature.—Any kind of strong thread boiled in 5 per cent. carbolic solution for twenty minutes, or in plain water for half an hour, makes a good sterile suture material in an emergency.—*Carolina Medical Journal.*

Painless Application of Corrosive Sublimate.—L. F. Appleman (*American Medicine*) states that when solutions of bichloride of mercury are made with normal salt solution instead of water, they do not cause the slightest pain when applied to the mucous membranes.—*Denver Medical Times.*

A bichlorid of mercury dressing should never be applied on an area of skin on which tincture of iodine has been recently painted. An iodide of mercury is formed, which is highly irritating.—*Jour. A. M. A.*

To Drive Mosquitoes Away.—℞ Ol. sassafras, Ol. wintergreen, of each equal parts. M. Sig.: Apply to exposed portions of body. The oils of cajuput and organum are also very effective, but they have a rather unpleasant odor.—*Journal Tropical Medicine.*

Choice of Climate in Surgical Tuberculosis.—For tuberculosis of the bones and joints and scrofulous affections of childhood the seacoast climate in our temperate zones comes nearer to deserving the term *specific* than anything else. The peculiarly beneficial influence of seacoast climate in bone and joint tuberculosis is doubtlessly to be ascribed to the aseptic and ozonic quality of the air, and the iodides and other salts suspended therein. But pure air and outdoor life, in whatever locality, can and should be utilized in the treatment of tuberculosis and scrofulous affections of childhood.—S. A. Knopf, in the *New York Medical Journal.*

To Preserve Hypodermatic Solutions Ready for Use.—A convenient way in which the anesthetist may carry, all sterilized and ready for instant use, his hypodermatic solutions is the following: Shallow, wide-mouthed, half-ounce bottles are sterilized, labelled and filled. Over the mouth of each bottle is then stretched, and hermetically fastened, a cover of sterilized rubber (dam). Before the narcosis is begun the anesthetist disinfects his syringe and sets these bottles in a dish of sublimate solution. This sterilizes the surface of the rubber. When a solution is wanted the needle of the hypodermatic syringe is simply thrust through the rubber and as much as is needed is drawn into the barrel. The puncture hole closes without leakage. The covers of the bottles need to be changed only occasionally.—*American Journal of Surgery.*

To Make Boiled Water Palatable.—Marsden Manson has sent to Dr. James W. Ward, president of the Board of Health, the following recipe for preparing boiled water so as to make it palatable:

"First—Mix the beaten white of one egg in two or three gallons of cold water, then bring to a brisk boil, allow to cool and settle. Decant or syphon off the clear water.

"Second—Dissolve in this one level teaspoonful of bicarbonate of soda; this is equivalent to 35 grains or 3.5 grams; then stir in two-thirds of a teaspoonful of pure hydrochloric acid; this is the equivalent to 3.9 grams. The water is then absolutely safe, sparkling and refreshing, and entirely devoid of the flat taste of boiled and distilled water.

"The chemistry of this mode is simple. The albumen of the beaten egg is soluble in cold water, and is coagulated into an insoluble form by boiling, and carries down all suspended matter.

"The bicarbonate of soda is converted by hydrochloric acid into common salt, and the carbonic acid is set free in the water, both remaining in solution. The former is tasteless, and even beneficial in such small proportions, and the latter renders the water sparkling.

"It might be well to have druggists put on sale a small double measure of glass or porcelain holding one teaspoonful (6.1 cubic centimeters) in one end, and two-thirds teaspoonful (3.9 cubic centimeters) in the other, the first for bicarbonate of soda and the second for hydrochloric acid. These quantities are sufficient for two or three gallons of water.

"Any careful housekeeper can follow the above directions, and can feel assured that by so doing her household will be safe against water-borne disease."—*Nurses' Journal of the Pacific Coast.*

A First Aid Dressing Adopted by the Police Department of Philadelphia.—Dr. William M. Angney said there seemed to be a need in the equipment of the patrol wagons of Philadelphia of some first aid dressing which would be so simple that men comparatively uninstructed in medical work could apply it. The requirements of a first aid dressing in a great city were practically the same as upon the battlefield. As a result of considerable study, especially of the writings of Senn, Dr. Angney had adopted a bandage for use in patrol wagons which contained two compresses of gauze with absorbent cotton. There were a few layers of loose gauze on top of the compresses which could be used by the physician, and a four yard bandage. The advantage of the two compresses was that, if the wound was a long one, they could be separated and one used alongside of the other; or, if there should be a bullet wound, one compress could be placed on the aperture of entrance and the other on that of exit. There was sufficient bandage to go around the trunk or to be applied several times around the thigh. If the arm was injured, some of the bandage could be used for a sling. For the prevention of infection, Dr. Angney had adopted a powder, consisting of boric and salicylic acids, four parts to one. This powder was also suggested by Professor Senn.—*New York Medical Journal.*

Use of Hot Solution of Soda in the Disinfection of Floors.—Giuseppe Pecori calls our attention to the lack of efficiency of the solutions of corrosive sublimate in ordinary use for disinfection of walls and floors. He finds comparatively useless many disinfectants ordinarily used. In order to obtain a disinfectant that would be efficient for the disinfection of hospital floors, as well as the rooms used in infectious cases, the author has made experiments as to the value of solutions of soda used hot for the destruction of the tubercle bacillus and other common germs. He finds that solutions of soda of two per cent. used hot and kept in contact with the bacteria for from five to ten minutes are not to be relied upon to destroy the bacilli, but that if solutions of five and ten per cent. be used hot and applied for five or ten minutes they are efficacious and destroy all the bacilli. He believes that such solutions have a very real value in the disinfection of walls and floors, and that at the same time they are not at all injurious even to cement floors. Another advantage is that the solutions are exceedingly cheap. The commercial soda that is an oxhydrate and contains 70-72 per cent. of sodium hydrate is the one that should be used.—*Gazetta Medica di Roma (Reported in the National Hospital Record).*

Book Reviews.

Diet in Health and Disease. By Julius Friedenwald, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore, and John Ruhräh, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Second edition, thoroughly revised and enlarged. Philadelphia and London, W. B. Saunders Company, 1906.

A second edition of this book proves its worth and appreciation by the medical profession. No greater tribute to the authors could be given. That it has filled a need is evident, and that its careful study by the profession will redound to the credit of those who read it, as well as great benefit to their patients, is equally true.

The scientific study of diet in health and disease is a comparatively recent study, and its proper application has unquestionably worked great good to the patient as well as to him in health. Too much attention cannot be given to this branch of medicine, for with a thorough understanding of the character of diet best calculated to serve man, coupled with a knowledge of prophylaxis and hygiene, he will, if the knowledge is put into every day use, gain in health and usefulness.

Space does not allow of a detailed review of this book of 700 pages. It must suffice the reader of this too brief résumé that it will repay him to keep it near him, study it and put into practice the knowledge that he will absorb from the reading.

The American Illustrated Medical Dictionary. All the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and kindred branches; with over 100 new tables. By W. A. Newman Dorland, M.D. Fourth revised edition, with numerous illustrations, 119 of them in colors. Philadelphia and London, W. B. Saunders Company, 1906.

Numerous additions to the vocabulary of medical science has made a new edition of this popular work necessary. We note with much pleasure that the author has wisely, we think, chosen to give a modern spelling to the words, dropping the final e in such words as cocain, morphin, antipyrin, etc., and discarding the obsolete diphthongs.

The definitions are not prolix, yet of sufficient character to give a clear understanding of the meaning, derivation and pronunciation. The illustrations are very handsome and illuminating, while the numerous tables appearing in the book will be found very useful. Paper and type, flexible cover and size, make Dorland's one of the handsomest as well as the most useful of books to student and practitioner.

The Operating Room and the Patient. By Russell S. Fowler, M.D., Surgeon to the German Hospital, Brooklyn, N. Y. Octavo of 172 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, $2.00 net.

In this book the author addresses himself specially to the internes and nurses on duty in the operating room and the surgical wards. The arrangement, equipment and care of the operating room and the instrument and supply room are described in detail. In the chapter on the personnel of the operating room—nurses, orderlies, operators, assistants—the costumes, duties and functions of each individual are prescribed with such precision that no one need err as to place or propriety. Ample directions are given for the care of instruments and the preparation and care of all sorts of supplies. Many valuable formulas add to the practical value of this part of the book.

About half the space is devoted to the care of the patient, beginning with a guide to the different methods of anesthesia, describing the preparation of the patient for various operations, and ending with an excellent chapter on after-treatment of operative cases. Then follows the enumeration of the instruments and dressings used in 82 operations. A complete index adds much to the value of the book.

The nurse who is so fortunate as to have access to this volume may be sure of finding the minutest directions for her work given in the simplest and fewest words possible. The making of the book leaves nothing to be desired as to paper, typography and illustrations.

THE

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THE PROCREATION OF DEVIATES.

By William Lee Howard, M.D.,

Mossfell, Westboro, Mass.

The reason why an article dealing with the procreation of deviates should appeal to the readers of The Gazette must be apparent to every thinking individual. More disturbances of physiological functions are the result of faulty mating than is generally considered. They arise in one or both of the mismates, and if a child is the unfortunate outcome of the union it is liable to exist as a most miserable being. Given a child whose cortical cells are wanting in normal potential energy and we shall have the adult showing some form of psychic disturbance with its indirect physical analogue.

The study of the sex question and the solving of its many problems is now occupying the attention of the best scientific minds. The work going on involves the study of natural history, physiology and psychology of sexual life, its pathology and the great social role sex activities play in the process of evolution. In all these studies the aim is to further the health and happiness of our descendants.

It will be accepted beyond cavil that there is always danger in the marriage of a deviate—the so-called degenerate.

The danger lies in the possibility of the procreation of a degenerate—a sexual pervert. In fact, Kraft-Ebing, Kiernan, Shufeldt and other eminent authorities consider sexual perversion a symptom of degeneration. Nevertheless, many individuals who have stamped their genius and talent on the moving die of intellectual progress have been sexual perverts—episodic or constant. In most of these cases such have been the progeny of one degenerate parent, or at least of an erratic one.

It may be argued, as does Morel, that degeneration, and this includes sexual perversion, is a weeding process of nature. Morel's teaching was that by degeneration we have a process that in the course of three or four generations causes the line to become extinct through sterility; that nature eliminated this family of unfits.

From this broad view, if the above hypothesis is correct, a marriage of degenerates will do more than legislative acts to stop the procreation of the unfits; such marriages result in castration through natural processes. But it can be argued if nature shows us that she is endeavoring to sterilize these unfortunate individuals why not assist her in the process at once by surgical methods.

Theoretically this method of eliminating the degenerate family may be correct, but we must not forget the many and devious influences that enter into families through several generations and are potential factors in keeping the family productive, and possibly improving the stock.

All these speculations enter into such a vast realm of biologic and sociologic discussions that they cannot be detailed here; nevertheless, we may look at the immediate question: should the marriage of sexual degenerates be forbidden by the physician? It is the medical profession that must decide this question before those less familiar with the subject give it a legislative answer. If our law makers had a well meaning attitude toward true social progress we might soon tentatively solve the problem. But they have not; ignorance, selfish motives and religious denseness stand as an iron door against the entrance of this scientific light on the criminaloid class.

There is a large class of sexual deviates whose exact social status it is difficult to place. Specially so is this the case in certain women before marriage. It is the woman of undifferentiated sexual instincts and the man who is unpronounced in his male bearing, that causes domestic misery, martial infidelity and homosexuality. These psychic enuchs and the female of frigidity may give the world a genius who is also a congenital sexual pervert. There are also cases, episodic ones generally, of sexual deviations without true degeneration. Should we allow these to marry?

When we have a prospective parent who demonstrates some symptoms, hereditary or otherwise, of a physical disease, we carefully enquire into that individual's history, learn all posible regarding his or her family, and if it seems probable that such a person is suffering from an hereditary affliction, do not hesitate to advise him or her to forego marriage.

It should be so in the case of psychical sexual matters. There exists a large number of these unfortunates. Many of them are blind to their real condition; some see in their desires a higher plane of sexual morality, while others will argue that they have as much right to gratify their individual instincts as others have those they possess. Such cases are the cause of much that we hear about in divorce courts and social scandal. Misery, suffering, physical and mental, are certain to follow marriage where one of the union is a sexual deviate. This horrible condition of society is readily avoidable if we only look to the subject of sexual matters with the same care and knowledge we do to tuberculosis and syphilis.

We should wake up and give serious attention to this matter. It is our duty as medical men. The divorce referees get a superficial knowledge of the misery and ruined lives that are caused by conditions which could have been avoided had the medical advisers done their duty. Should a party known to be sexually abnormal—even only episodically so—insist upon marrying a normal person, it is the duty of the physician to do all in his power to prevent such a crime. For such a horrible union will surely end in some great social crime which has its termination in the prison or madhouse. If ministers are ignorant of these conditions they should be well informed, or the power to marry persons unknown or uncertified by a physician taken from them. It is fallacious reasoning to say that these conditions cannot be discovered until too late. A physician who cannot through his own intuitiveness, experience and knowledge diagnose these cases should give up his profession.

We hear much about not interfering with those whom God has joined in holy wedlock, but nothing about those the Devil has tied on a bed of misery, insult and unnaturalness.

In these cases we need not go so far as to think of the rights of possible children, we must think of the crime to a pure woman or the moral and physical degradation of a normal man.

The question may arise in the minds of some of my readers about the possibility of the pervert wishing to marry. I am speaking here not of the *invert* but of the sexual deviate, the individual of herterodox tendencies, the episodic pervert, and that most horrible one of all, the satiated satyr, who seeks the young girl for a bride. In all of these cases the possibility of offspring must be considered, and here our duty is plain.

ETERNAL life is not a thing that we are to get when we die. It is a thing that we are living now. —*Drummond.*

ACID MILK PREPARATIONS,

Valuable in Intestinal Derangements. A Personal Experience.

By J. Madison Taylor, M.D.,
Phila., Pa.

Undoubtedly the use of acid preparations of milk (buttermilk, "bonny clabber" keffir, yohourd, matzoon, zoolak, koumyss), does exert corrective influences on putrefactive states in the intestine. Metchnikoff has brought this to our attention emphatically in his recent book, "The Nature of Man," and demonstrates the role of the lacto bacillus in inhibiting the putrefactive bacilli. The reasonableness of his ingenious arguments has impressed me forcefully and I have employed these articles extensively in the past two years. It is part of my creed to submit myself to many of the more disagreeable measures recommended to others. It is only fair to do so, and for some time I have been taking (much against my taste) buttermilk and later keffir. The effects are gratifying, and it is my hope to secure the postponement in myself of old age degenerations as far as possible.

Many years ago I was impressed with the vitalizing effects of a diet of buttermilk on patients in the neurologic clinic of the Howard Hospital. We found there a large proportion of frail old women who, having outlived their usefulness, subsisted precariously on the cheapest obtainable diet, which consisted for the most part of bread and tea. In consequence of the semi-starvation, the poison of the thein, the psychic effects of a dreary future, loneliness, a hopeless outlook, inaction and the like, there were induced a variety of neuroses. Instigated chiefly to substitute an equally inexpensive diet, richer in assimilable proteids and to get away from the tea, tannin, etc., I put them all on buttermilk. It surprised me to observe remarkable enhancements of vigor, activities, digestion, elimination. bowel action, urination, better sleep, a serenity of mind and temper. The roses of youth in many instances came back in sallow cheeks long withered; wrinkles disappeared; capacity for work long dormant awakened, and I enjoyed many voluble blessings. This was attributed at the time to the sustaining properties of the finely comminuted proteids and the vaguely understood diuretic and laxative effects.

To all my assistants these conspicuous betterments were a revelation. Now we can explain the rationale, at least in part. Again, accident induced me to use buttermilk in several cases of typhoid fever in private practice among humble householders. One in particular scarcely lost weight and remarkably little strength. I now use buttermilk and other acid milks in my service at the Philadelphia Hospital among children with good effect. Later these researches will be submitted at some length.* It would seem that, assuming the contentions of Metchnikoff to be true (and facts certainly bear out his views) nowhere should this diet be so clearly indicated as in a protracted infection like typhoid fever, whose most characteristic lesion is in the intestines, which it is imperative to relieve from all irritation. Sweet milk is now suspected of being unsuitable for most adults and to distress many by flatus formation, etc. During my sixteen years of personal assistance to Dr. Weir Mitchell among the "rest cases" it was common to see much discomfort attributable to milk, which he insists upon using in quantity. In Europe the use of the fermented preparations of milk is much more common than here. The only one frequently used here is Koumyss which, good as it is, does not suit many. Of Matzon and Zoolak I have little experience, though the effects upon the proteid content in all such must be analagous. So far as I can determine Keffir is the most acceptable of the fermented milk products. This was only obtainable in this city within the year. It has proved for me an admirable means of hyperalimentation. Dr. Henri H. Le Fevre personally supervises the product. which is uniform, clean and acceptable. For some months I have taken it myself and

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*I. L. Morse has presented this in *Archive of Pediatrics*, Dec., 1906.

can speak from a personal experience, as well as in others. Keffir is slightly acid, of creamy consistency, drinkable, perfectly digestible. The most conspicuous effect is to be observed upon the stools, which cease to be offensive. Flatulence ceases, defecation is easier, the urine is more abundant and clearer.

I am of the opinion that we do not use the fermented milk products enough. The cost of these preparations is rather more than for sweet milk, which item often prohibits their employment among the poor. For them buttermilk is then indicated, which costs less than plain milk. The taste for them all is perhaps an acquired one, in most instances, but it is well worth while to insist upon their use; soon it becomes acceptable by all. As a remedy acid milk is simple and efficacious in its immediate, and salutary in its remote, effects, and corrective to a vast array of those otherwise incurable, and only moderately relievable. If the ultimate effect is to relieve the organism of the perils incident to advancing years it behooves us to make wider use of so practical a measure.

For those in ordinary good health, yet subject to the manifold possibilities of defective metabolism, even when shown only in gouty phenomena occasionally obtruding, in muscular rheumatism, the acidoses, glycosuria, beginning arterio sclerosis, it affords a means of both prevention and possible cure. Perhaps the field of usefulness is largest in those of middle or late life, yet my experience among infants and children leads me to feel confidence in its wider applicability. We are prayerfully searching for panaceas for human ailments. Among the primary desiderata are suitable foods, free from the objections variously, and often contradictorily attributed to many articles of diet commonly endorsed. Milk is confidently relied upon as nearly perfect, yet often it will not behave in use, as its chemical nature promises. Perhaps by some of the devices suggested, this universally used product can be rendered acceptable and adaptable to variations in digestion, in metabolic balance.

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A FEW REMARKS CONCERNING THE CAUSE AND MANAGEMENT OF NEURASTHENIA.

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It is indeed unfortunate that the general practitioner shows so little consideration for the neurasthenic. With a proper understanding of the disease, coupled with intelligent treatment, it is doubtful if such constantly brilliant results can be obtained with any other class of patients. The successful treatment of neurasthenia not only requires familiarity with pharmacology and general therapeutics, but demands a greater insight into and understanding of human nature and mankind in general than any other disease with which the medical profession has to deal. The physician owes it to humanity, as well as to the individual, to devote the necessary time, study and interest in these patients to effect a cure.

Definition: Neurasthenia may be roughly defined as being an exhausted condition of the central nerve centers, with a resulting loss of the normal physiological equilibrium.

Etiology: Heredity undoubtedly plays a very important role. The child of neurotic parents is likely to be endowed with a neuropathic predisposition, the so-called "nervous temperament." The nervous system of such individuals will not stand the severe strain which people, especially of our large cities, often find it necessary to endure. Neurasthenia may follow the infectious fevers, particularly influenza. It may be caused by excessive use of certain drugs, such as alcohol, morphin, etc. The vast majority of cases, however, appear to be caused by some form of nervous strain. By strain, as used in this sense, is meant the demand upon the nervous system for more than its capacity and may, of course, occur in many different ways. The athlete by specializing and training in some one form of exercise often exhausts his nervous system and produces a mild form of neurasthenia, the condition usually called "over-trained" or "stale." The social aspirant, the student, the artist and the financier by too close attention to duties requiring an enormous expenditure of nerve energy are all subject to this disease. The "strenuous life" has been heralded as a potent factor in the production of neurasthenia. As a matter of fact the strenuosity of one's life is of little moment providing the mental and physical body receives proportionate exercise. One must recognize the difference between fatigue and exhaustion. It is probable that if the properly conducted "strenuous life" be not associated with conditions leading to excessive worry, the point of healthy fatigue is never passed. One of the most potent causes, as well as one of the first manifestations of neurastheia, is worry. Any condition leading to long continued and excessive worry is likely to produce a greater or less degree of nerve exhaustion. The worry attendant upon love affairs, religious doubts, the sexual passion, the cares and anxieties associated with the gaining of a livelihood may be cited as examples. Pathological and pseudopathological conditions, especially when associated with the reproductive organs, will often cause sufficient worry and anxiety to produce profound grades of neurasthenia.

Autointoxication as a cause of the disease under consideration has of late received some attention, but the subject has certainly been sadly neglected by the majority of writers. It has long been known that neurasthenia is often associated with disturbances of the alimentary tract and that the general process of metabolism was being interfered with. The urine often presents a marked phosphaturia, and frequently the normal relations existing between the other solid constituents are disturbed. So far as I am aware no special attention has been given to the presence of indicanuria found in a large majority of these patients. For the past eight months I have made a routine analysis of the urine from neurasthenic patients and find that indicanuria is present in at least eighty per cent. of the cases. Indol is formed in the large intestines by the action of certain nonpathogenic bacteria upon the proteids. This indol upon entering the circulation is oxidized either in the blood or the liver into indoxyl, which unites with sulphur and potassium to form the ethereal sulphates, in which form it appears in the urine. The test for indican consists in adding Obermyer's solution (hydrochloric acid and ferric chlorid) to an equal amount of the suspected urine. The ethereal sulphates are reduced and the resulting indigo may be separated by the addition of a few drops of chloroform. In health it is possible to obtain only a mere trace of indican, but in the majority of neurasthenic cases a strong reaction is obtained. The constant absorption of excessive amounts of indol during months and years produces a chronic autointoxication, with subsequent circulatory changes and an interference with the natural metabolic processes of the body. It is impossible as yet to state whether the autointoxication from indol or from other products of faulty digestion and elimination is a cause or a result of neurasthenia. In many of my cases it appeared to be the causative factor, while in others it seemed to follow chronic digestive disturbances which in turn were apparently secondary to a greater or less degree of nerve fatigue. However this may be, it is quite certain that the vast majority of neurasthenic patients present a marked indicanuria which indicates an intestinal autointoxication. It is also a fact that many of the symptoms of which these patients complain disappear and their general health is greatly improved if this condition is properly overcome.

To take up an exhaustive consideration of the etiology, course, symptoms and treatment of the disease or condition which is known as neurasthenia would be beyond the scope of the present writing. The following outline of treatment is based upon personal experience with a comparatively mild class of cases and represents a method of procedure for the general practitioner to employ in the average case. It is impossible to entirely eliminate the personal equation in the treatment of these patients. One physician will employ exactly the same method of procedure as his brother practitioner without obtaining the same beneficial results, while, on the other hand, if he will accept and understand the general rules of treatment, modify them to suit his own personality and temperament, as well as that of his patient, if he will carefully study each individual case and be to a certain extent original in his advice, instead of applying the exact treatment as recommended in any one book or article, he undoubtedly will be successful in the management of this unnecessarily common disease.

The first consultation. The physical effect of the first visit is of no little importance. If an air of impatience, lack of interest and care is maintained, or if the patient is unnecessarily hurried through the recital of a long list of symptoms his confidence, which must be had to successfully educate him out of his fears and to strengthen his mind, will not be received. It must be remembered that the neurasthenic places considerable importance upon each subjective symptom, and for the time being one must appear to place an equal amount of importance upon such manifestations. After the history and present condition has been ascertained and tabulated, a thorough physical examination should follow, including a careful urinalysis. The patient will often await the outcome of the examination with dread and anxiety, and will show considerable relief and gratitude when his condition is properly explained and a favorable prognosis given. It is not good policy to endeavor to cure a neurasthenic patient in one treatment by the statement that his condition is one of imagination. In the first place, such a statement is not correct. The condition is not one of imagination, but rather of faulty or irritable nerve impulses which are for the time being at least beyond the control of the patient. In health there is a certain controlling influence existing between the various nerve centers which for the want of a better explanation we term equilibrium. If one or more centers are exhausted the result is loss of stability, a disturbance of equilibrium which allows certain reflex impulses to predominate. In the second place, such a statement would not only cause loss of confidence, but very likely the patient as well.

Pathological complications. If real pathological lesions exist they must be recognized and their significance explained, care being taken that too much nor too little importance be placed upon them.

As a rule, some deviation from the normal structure of local tissue can be found. The gynecologist will call attention to lesions in the female reproductive organs which he sincerely believes is the cause of the neurasthenic symptoms. The urologist will find a similar state of affairs in the male sexual organs. The ophthalmologist, the otologist and, in fact, each specialist will find some condition lying within his domain that will, by reflex action, produce neurasthenia. It remains for the general practitioner to study each individual case, and if he can locate any lesion which in his opinion is extensive and severe enough to be responsible for the neurasthenic state and the treatment of such local trouble is outside of his domain, he should then consult with a specialist. It is really a difficult problem sometimes to decide whether to treat or to ignore a local disturbance. I can think of no better way to illustrate my meaning than to quote the following history: An intelligent business man, thirty-eight years of age and married, consulted me some years ago regarding a rather severe grade of neurasthenia. He presented no symptom referable to any one region, but complained of constant mental and physical fatigue. It was at first impossible to discover the cause of his condition until he was questioned as to his sexual habits. For two or three years he had practiced almost daily coitus interruptus. As a result of appropriate treatment, consisting mainly of hygienic and dietetic measures over a period of three months, he completely recovered.

Six months later he again consulted me, complaining of rather vague symptoms referable to his reproductive organs. A rectal examination revealed a slightly enlarged and boggy prostate. Prostatic massage was advised and given once weekly. Later, cold sounds and deep instillations of silver nitrate were employed in an attempt to control the symptoms supposedly caused by a congestion and hyperesthesia of the posterior urethra. Worst judgment in this individual case could not have been used. In the first place I had complete control of the patient, that is to say, his complete confidence had been gained, making him amenable to suggestive influence. In the last week or so of his first course of treatment he demonstrated anxiety regarding the future of his sexual organs by asking many questions regarding the same. By inquiring into his sexual habits, finding them to be harmful and, by placing too much stress upon the discovery, the possibility of future trouble was suggested. Not having received a counter suggestion, and while beyond my influence, he worried himself into the belief that considerable local trouble already existed. These facts, as well as the mental condition of the man, should have received recognition at the time and the local treatment either postponed or his mind prepared for such treatment. At any rate, the local treatment caused his thoughts to be constantly upon these parts and he soon became a typical sexual neurasthenic. Fortunately the patient retained his confidence and, by the discontinuance of all local treatment, a return to previous methods and the use of all the direct suggestion I could employ, he finally recovered.

In many cases pathological lesions exist which call for immediate treatment. In such cases care must be taken that the treatment is not producing a concentration of thought upon these parts. In some cases mild local conditions exist which, although having a bearing upon the general health, should be left until such time as the mental condition of the patient will allow the institution of local treatment with safety. In still other cases, where there is either a very slight deviation from the normal or where no lesion can be found to correspond with local symptoms, it is better to endeavor to overcome such symptoms by other than local treatment.

Hygiene: A. *Ventilation.* Most neurasthenic patients prefer to sleep in warm rooms. Inasmuch as the majority of such patients are indoors the greater part of the day it is, of course, better to encourage them to sleep in cold, well ventilated rooms. The bed, which should have a fairly hard hair mattress and wire springs, must be placed out of the draft from the window, and the latter should be open top and bottom regardless of the weather. They should sleep between sheets and use down quilts as a protection from the cold. These simple measures alone will often suffice to overcome the insomnia, the restless nights and the tired feeling even after a long sleep, so often complained of. There seems to be a tendency for these patients to simulate as closely as possible the hothouse plant; such tendencies should be discouraged.

B. *Clothing.* As a rule one will find the neurasthenic clothed in heavy woolen underwear, with as heavy outer garments as can be purchased. Regarding the proper principle of dress I learned more in one minute from the following story than from years of experience: A Frenchman warmly clad in wools and furs was standing one bitter cold winter day upon the bank of a Canadian river watching a game of hockey between Indian and white boys. Besides him stood an Indian in majestic grandeur, sparingly clad in buckskin, but watching the game with as much interest and comfort as his pale-face neighbor. Wondering at the composure of the Indian under such circumstances the Frenchman asked him how he managed to withstand the intense cold under such light cover. After a moment's silence and observation the reply came in the shape of a question, "Why, white man's face no cold?" "But, my good friend," said the Frenchman, "my face is constantly exposed to the elements and consequently does not feel the cold." After another moment of silence the Indian replied, shortly but eloquently, "Injun face all over." Thus it is through the advice of our fond parents and grandparents, to say nothing of the haberdasher, we soften our skin and become extremely sensitive to the influence of cold. The average winter indoor temperature is as high, if not higher, than during the summer months, therefore there should be little if any change in undergarments, but appropriate outer garments should be added when out of doors. By the wearing of proper clothing, the indulgence in exercise and cold bathing, one soon prepares his system to produce large amounts of animal heat from what would otherwise be incompletely oxidized food. People living in this manner will soon realize that they not only have fewer attacks of rhinitis, bronchitis, etc., but that they feel the cold much less than formerly, and as a direct result of increased metabolism their general health is greatly improved.

C. *Food.* The average American undoubtedly eats too much in proportion to the amount of physical exercise taken. Most neurasthenic patients take no exercise at all and eat all they can. If their appetite is poor they employ proprietary alcoholic tonics and cod liver oil emulsions. How can normal metabolism take place under such conditions? If the appetite is poor increase it by exercise and other hygienic measures; if it is good, aid digestion, assimilation, oxidation and elimination also by exercise. If indicanuria is present lessen the amount of meat; if gastric disturbances are present restrict the rich and heavy foods. Occasionally it is necessary to reduce the carbohydrates. One should not lay too much stress upon the regular eating of meals, except as a matter of general daily routine. As a rule, when the body requires nourishment it will be asked for, therefore eat when hungry and fast when not hungry, and never partake of more than is required to appease the appetite. A hearty meal should not only be eaten slowly, but should be followed by a period of rest. The old motto, "eat to live instead of living to eat," is especially valuable if one may add never eat in a hurry. Water is one of the best therapeutic remedies, and a liberal quantity should be taken between meals. Proper mastication is of great importance. In watching the patrons of the quick lunch restaurants one learns much regarding the origin of gastric complaints. The laity appreciates the danger of bolting food, so to escape the injurious effects of rapid eating articles of such texture as to allow swallowing without mastication are often substituted. Mastication is of importance not so much for the purpose of maceration as to saturate the bolus with saliva. A diet of hash, cereals and other soft articles of food will not prevent gastro-intestinal disturbances, nor does it aid the preservation of the teeth. Moderate amounts of fluid with meals may be allowed so long as it is not too cold and is not used for the purpose of washing down incompletely masticated food.

Exercise and recreation. It is always difficult at first to make the neurasthenic appreciate the value of exercise, and inasmuch as they are easily discouraged and alarmed, it is advisable to begin with caution. Such forms of exercise as walking, rowing, bedroom calisthenics, etc., although increasing the circulation and developing the muscles, will not always prove of benefit to the neurasthenic. This is mainly because he can continue to worry and think about his troubles while going through physical motions which have no particular interest for him. It is far better, therefore, to choose some form of exercise requiring the undivided attention of the performer. For this purpose there is nothing superior to the competitive games like tennis, baseball, handball, basket-ball, etc. Boxing, fencing, wrestling, horse-back riding and class calisthenics, especially if associated with music, will absorb the attention. Vigorous exercise, although not advisable at first, should be indulged in as soon as possible. It should be sufficiently strenuous to produce free perspiration and rapid respiration, and should be immediately followed by the breathing exercises to slow the heart and develop the chest. The cold shower, if properly taken, has no equal as a nerve tonic. It is advisable to begin by taking tepid baths, later cold sponges may be substituted, and finally by the cold shower or plunge. They should always be taken during the free perspiration following exercise. The shock is followed by a reaction, accompanied by an exhilaration defying description. Occasionally one meets with an individual whose system fails to properly react to the cold bath. Instead of feeling the warm glow over the entire body he feels cold and uncomfortable. This usually indicates that the patient has not properly followed instructions or that he is not quite ready for such harsh measures. Vigorous exercise, when properly conducted, tends to restore physical and mental equilibrium by increasing the metabolic processes and by developing neglected nerve centers while allowing exhausted centers to obtain needed rest. By training the muscles, the eyes, ears, etc., to respond quickly to mental impulses it sharpens the intellect and produces self-confidence. Besides daily exercise, neurasthenic patients should participate in other forms of recreation, always choosing something productive of laughter and happiness. Music not only charms the wild beast, but it also soothes the tired nervous system, and, although the atmosphere of the crowded theatre is not conducive to health, an occasional visit to the light opera is certainly restful.

Electricity and massage. Unfortunately electricty has been largely employed for moral effects alone. Although one is justified in using any method having suggestive possibilities, electricity should not be used solely for this purpose. The various electric modalities all have their field of usefulness, but inasmuch as neurasthenia is usually associated with autointoxication, and probably also with submetabolism, it would seem preferable to employ some current having a direct action upon these conditions. The electrical currents which are preeminently useful as direct stimulants to metabolism are the Morton wave current and the d'Arsonval high frequency currents. Of the two, the high frequency currents are probably the most useful, due to their higher amperage (Piffard). Recently, in cases associated with indicanuria, I have been using the d'Arsonval autocondensation current with what appears to be very satisfactory results. Massage, based upon the Swedish method, is also of value for this purpose.

Medicine. It need hardly be said that anodynes and hypnotics should be avoided. Tonic, digestive and laxative, mixtures are often indicated. If indicanuria is present the so-called intestinal antiseptics may be employed.

Finally, both as a preventative and cure, the patient should establish a routine in his daily work. In some localities the people worry; in others they hurry, but the worried hurry associated with New York life would wreck the nerves of Hercules. It will do us no harm to take a hint from the Christian scientist and the osteopathist, who obtain good results in many cases of neurasthenia, hysteria, hypochondria, etc. The former, by an unique method of suggestion and autosuggestion, produce a happy state of mind, free from worry and care. The latter, with its system of deep massage and manipulation, obtain a result similar to that produced by the competent masseur or masseuse, only that the moral effect is more pronounced. In conclusion, I beg to apologize for making this article longer than at first intended, but if I have, even to a slight degree, aided the general practitioner in the proper understanding and treatment of neurasthenia I am, indeed, well repaid for my trouble.

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A MAN may as well expect to grow stronger by always eating as wiser by always reading. Too much overcharges nature and turns more into disease than nourishment. It is thought and digestion which makes reading serviceable and gives health and vigor to the mind.—*Collier.*

THE USE AND ABUSE OF STRYCHNIN IN GENERAL PRACTICE.*

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The object of this paper is to briefly review the accepted and recognized beneficial uses of strychnin in certain diseased conditions, and to call attention to the wrong uses made of this very important drug, with the consequent dangers arising therefrom.

Strychnin is used with great frequency and freedom by nearly every practitioner, particularly in sudden emergenecy, and the proper understanding of its limitations and actual indications for use is well worth a careful study.

There are times and conditions when too much reliance is placed in this drug, to the exclusion of other drugs or measures, to the sacrifice of ultimate good to the patient.

Many young graduates carry with them into practice a hazy idea that strychnin is a panacea, and that when in need of a drug to administer on general principles, they can have resource to it as an all important and ever ready servant under any circumstances, this owing to a lack of study of its differential action.

A suggestion here would be that a list of "Don'ts" be submitted when the study of the drug is made.

Pharmacology: The powdered drug and fluid preparations of nux vomica vary in strength of alkaloidal content, but strychnin is standardized, and we shall limit the discussion to this preparation.

Physiological action: Small doses increase the appetite, stimulate secretions, improve digestion, stimulate peristalsis, exalt vital powers, stimulate respirations, the heart and vasomotor centers; give increase of force to conductive power of motor and sensory nerves, raise arterial tension; slow the pulse, and gently stimulate the pancreas to further physiological action. In a word, the drug acts reflexly by stimulating the centers of the brain and spinal cord.

Toxic doses: Paralyzes the functions of the spinal cord, especially the anterior horns; one large dose often causing this. Death shows the motor nerves depressed. The brain is affected only by reason of Co2 poisoning. Death is usually rapid in fatal cases, recovery being the rule if life is preserved longer than three hours.

In children, long continued doses cause talkative delirium or peevishness, even to temporary insanity. A fatal dose may be from 1-12 grain to ½ grain of strychnin sulphate, while the nitrate usually is less poisonous in the same doses.

The cumulative effects are seen in the nervous system in particular, as evidenced by muscle cramps and stiffness and convulsions; sometimes flushed face, throbbing, giddiness or faintness. These are said to result more frequently from rectal than from stomach absorption.

Excretion: Takes place through the kidneys as strychnin or strychnin acid, being rapid in children and slow in the old persons. It has also been found in the saliva. Most of it is oxidized in the liver.

Abuses: One wrong use which is made of this drug is its promiscuous use in what is loosely termed neurasthenia, without really appreciating what constitutes this condition, being confounded with neurotic conditions, or even true hysteria.

Not all cases of neurotics are neurasthenics, nor are all cases of neurasthenics neurotics.

The strict application of neurasthenia is that of a *true* "nerve tire," occurring as a result of nerve exhaustion, as from overwork or application to business, nursing, sexual or other excesses, etc., which may develop in one whose previous nervous condition has been absolutely normal.

A neurotic condition, however, is one in which there is an increased susceptibility to nervous influence, whether psychical or medical; a condition of constant hyperexaltation of the nervous system, whereas in true neurasthenia there is often a lack of response to these stimili, owing to exhaustion of the nerve cells of the cord. Just here is where the mistake is made, in giving strychnin, usually in good sized doses, to neurotics, with nervous tension already at a high pitch, the stimulus given by the drug producing an increase in an already overtensioned reflex, with the result that the patient is subjected to a tremendous nerve pressure, great waste and exhaustion of nerve force; we thus defeat our very aim to tone him up by causing further profound exhaustion. This class of cases, instead of requiring strychnin, or its allied drugs, calls for nerve sedatives to reduce the abnormal susceptibility of the reflexes.

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*Read at a meeting of the North Branch of the Philadelphia County Medical Society, Oct. 16, 1906.

A case in point: A doctor treated a lady for a so-called spinal meningitis for over a year, giving increasing doses of strychnin, until the patient was taking as much as one-twelfth of a grain t. i. d., with the result that there was a constant tonic contraction of the fingers and toes when the high dosage was reached and maintained. Fortunately, a consultation resulted in the introduction of a sedative treatment, with marked improvement from the start and the ultimate recovery of the patient.

In the very excellent preparations of solutions or elixirs of iron, quinin and strychnin, which may be obtained in any of the drugstores, while the strychnin contained therein is usually not of great amount, there lies a source of danger to neurotic patients as they take this combination by recommendation of friends or druggist, or from other hearsay that it is a good blood tonic, etc., whereas their condition requires treatment diametrically opposite to this.

As a rule, therefore, the routine administration of strychnin to neurotic or hysteric people must be withheld until special indications arise for employment in an individual case. There are occasions where a truly neurotic person, by reason of exhaustion due to some intercurrent process and not to his original condition, needs strychnin, but these cases must be treated as units, on their personal needs.

While serving as interne at the Philadelphia General Hospital under the late Doctor Daniel E. Hughes, this point was well illustrated: In well selected cases, in which there was a tendency to melancholia, with a markedly run down system on admission, as from anemia, poor feeding, forced starvation, etc., the use of strychnin in gradually ascending doses was almost invariably followed by a favorable reaction and general mental and physical improvement, but in cases where there was any tendency to excitability the drug was withheld and a sedative treatment given, with correspondingly good results.

The advice sometimes given by teachers of medicine and of therapeutics, that "strychnin may do good, it cannot do harm," is not scientific, and therefore should not be given.

Strychnin should never be given to a patient suffering from cerebral hemorrhage, as it always raises arterial pressure and increases reflex action, the reflexes in this condition always being increased immediately after the occurrence of the hemorrhage. In cases of cerebral embolism, however, in order to raise arterial pressure and to establish collateral circulation around the infract, its use is ideal. Unfortunately, the diagnosis between these two conditions, though usually capable of recognition, is often overlooked.

In sexual excesses, where there is a real loss of physical and mental power, strychnin is valuable, but this does not mean that the patient is to continue along the lines of excess or the temporary stimulus of the drug will be followed by complete collapse.

Counter-prescribing of damiana compounds and the like, for this reason, is very injurious.

Neurotic individuals, who are introspective along sexual lines, should not be given this drug, sedation being the keynote in their treatment.

In chronic myocarditis strychnin is often of benefit, when used in small doses, p. r. n., as there are always some parts of the heart muscle which will respond to stimulation, but it must be cautiously used. By stimulating the heart and spinal cord it aids respiration and mental functions in the old, who usually suffer from cough, dyspnea and sluggish organs.

In poisoning from almost every cause the drug acts as a physiologic antidote, simply by keeping up respirations and heart action for the time and not from any chemical action per se. In opium and chloroform poisoning its use is of particular benefit.

In cases of pneumonia its use is best manifested during the crises which are common to this disease and not as a routine. Hare well writes "a protest against the common practice of to-day using it as a circulatory stimulant through prolonged illness. It is essentially a whip to a flagging heart to be used at a crisis and not for days continually. Persistent use of strychnin in fevers produces a rapid running pulse and great nervous irritation and prolongation of the febrile movement." (Hare, Text-Book.)

Strychnin is of service in lead poisoning, amaurosis from alcohol or tobacco, diphtheritic palsy, wrist drop, lead colic, muscle palsy, etc.

It must not be used in acute inflammations of the spinal cord, as in apoplexy, acute infantile palsy, nor acute or subacute neuritis.

In chronic hemiplegia it is good to keep up nutrition of the paralyzed limbs; if palsy be due to disease of the trophic cells of the spinal cord it does no good except to stimulate the remaining cells to greater effort. (Hare.)

In alcoholism it has no curative powers, but stimulates and braces the nervous system. Its prolonged use in these cases is very dangerous, owing to the associated arteriosclerosis.

In cases of anemia it is of service in raising arterial blood pressure. This use was happily seen in a case some years ago. A boy of 18, whose mother was the subject of arteriosclerosis and a patient at the same time, suffered from severe frontal headache upon arising in the morning, the condition having been present for some months, After having gone the rounds of the various specialists and all reflexes pronounced normal the young man was given iron, strychnin and digitalis, resulting in the disappearance of the headaches, to return again whenever he would become exhausted by overwork, but always responding to the above treatment.

In nervous palpitation of the heart, strychnin should not be used, though many err in giving it in large and continued doses. Here there is usually an overacting left ventricle, and the use of a whip to the heart will soon induce simple hypertrophy of the ventricle, with aggravation of all previous symptoms.

In shock, since we are learning more of its physiology and pathology, less reliance is being placed upon strychnin, with the more frequent use of atropin, adrenalin and other drugs and measures which keep up arterial pressure by action upon the vasomotors.

In a case of labor, where the patient seems to have a failure of contractile power, with more or less physical exhaustion, a single hypodermic injection of one-fortieth of a grain of strychnin will stimulate uterine contractions to greater force and regularity and lessen the danger of postpartum hemorrhage.

As strychnin is eliminated by the kidneys, theoretically its use is to be curtailed in any acute kidney affections, as it would seem to add to the congestion already present, many cases of albuminuria having been reported from its use. Instead, sparteine sulfate in one or two grain doses is a good substitute.

We have given a running outline of the indications and contraindications for this drug, and trust that it may be of service in causing a thought as to its actual need in a case before prescribing it simply because it is the custom to do so.

2114 North Thirty-first Street.

SOME CONDITIONS EXPERIENCED IN CASES OF ORDINARY LABOR THAT HAVE CAUSED ME AT TIMES CONSIDERABLE DISCOMFORT.*

By Francis Reder, M.D.,
St. Louis, Mo.

This is not the first occasion that I have given thought to my obstetrical experience. In going over the ground of my work in this particular branch of medicine I frequently have had cause to apologize for ignorance.

This was not wholly due to a want of a complete knowledge of the pelvis in its healthy, as well as in its diseased state, nor could it be attributed to a lack of a full understanding of the mechanisms of the various presentations. It was rather due to a lack of acquaintance with the powers of nature governing the phenomena of labor that the proper and judicious application of skill was either delayed or not applied at all, whereby I could have saved my patients much pain and danger.

Labor is a natural act, and in order that it can be conducted to a happy issue that practitioner should be well acquainted with its phenomena; the order or succession of them; be able to decide when certain of them are wanting, or when others are in excess; to estimate the relative or positive importance of such; the force or effect of each pain; the necessity of preserving or of wasting the waters; the degree of resistance the os uteri or external parts may offer; the situation of the former as regards the presenting part; the certainty of the presentation; the mode of rectifying any error of presentation in proper time, and the capacity of doing this with the greatest advantage to the patient and to the infant.

My early experience has taught me not to be officious during the active state of pain when all things are doing well. Ill directed measures will always have penalties attached to them, and it is only by taking a proper view of the nature of the labor that it can be conducted to a happy termination. There is no one circumstance that so largely and certainly contributes to divert nature from her proper course as the persuasion that art can always benefit her. So long as all things are doing well the active duties of the accoucheur are limited indeed. It is but when the contrary obtains that he can be said to be positively useful.

In ordinary cases of labor it occasionally happens that one or more things are not doing well, of which in my experience is *unusual rigidity* of the soft parts. By this I mean that the os uteri and the perineum offer an unusual resistance to the efforts which the fundus and the body of the uterus make to expel their contents.

To determine the cause of this unnatural resistance and how to remedy it has frequently caused me considerable concern. Unless the cause can be determined, attempts to overcome the resistance by increasing the force of the body and the fundus, or by forcing open the resisting os uteri by mechanical means, will ofttimes increase the evil and convert an otherwise safe labor into a difficult one.

When labor has been advancing well for several hours and the dilation of the os uteri has not been satisfactory, it is an evidence that the natural processes have for some cause or other been interrupted.

When after some deliberation I discover that the condition is a want of correspondence of axis caused by an obliquity of the uterus, and I succeed in procuring a proper relation between the axes of the uterus and the pelvis, a great sense of relief is experienced as labor advances more rapidly and with less pain.

In speaking of obliquities of the uterus I am convinced that I have often shortened labor and ameliorated pain by such simple procedures as changing the position of the parturient woman, usually laying her upon the left side (because we meet with right obliquity more frequently), or placing her in the knee-chest position. Furthermore, by hooking a finger, during the absence of pain, into the dilated or easily dilatable os, and gently drawing it towards the symphysis pubis, retaining it there until a pain ensues. It often becomes necessary to repeat this procedure, especially if the contracting force offers much resistance, to keep it at the symthysis. This, of course, should always be done during the relaxing period. In this manner we alternately retract and relax until we establish a correspondence between the axes of the fundus, the os uteri and of the pelvis.

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*Read before the St. Louis Obstetrical and Gynecological Society, May 10, 1906.

There are cases of extreme obliquity, when it is often difficult to reach the os uteri by the ordinary mode of examination. In such cases it is my custom to introduce the hand, well lubricated, into the vagina so that the palm may be next to the distended uterus. With a finger search is made for the os uteri in the neighborhood of the promontory of the sacrum. When the os has been found it is hooked upon the end of the finger and drawn towards the center of the inferior strait. This manipulation permits the hand then to be withdrawn. The finger, however, is retained hooked in the os to steady the uterus until the proper direction of the forces and the axis of the uterus are in correspondence. I occasionally have found reason for censure because I failed to take advantage of an opportunity and permitted nature to struggle unaided through a difficulty, when by timely and judicious assistance unnecessary delay could have been avoided. I have frequently found, for instance, when the head occupies the inferior strait, that a goodly portion of the anterior lip of the uterus has been pushed ahead and has become caught between the pubic bone and the head. This portion of the neck of the uterus is obliged to sustain the whole force of the uterine efforts, in consequence of which it becomes not only severely stretched, but it very effectually opposes the advancement of the presenting part and gives rise to much unnecessary delay, as well as very much augmenting the suffering of the patient. Now, such a condition can and should be corrected.

The proper time to act is when the head occupies the inferior strait, when the pains are active and when the os is sufficiently dilated to permit the head to pass. In the absence of pain the prolapsed edge of the anterior lip is seized between index finger and thumb and drawn towards the symphysis pubis. It is maintained there until a pain comes on. At this moment the finger, or the end of two or three fingers, press against the edge of the uterine lip in a manner so as to push it upward between the head of the child and the pubes. Should we succeed in carrying the prolapsed portion of the uterus above the advancing head, that is, so far as to permit the parietal protuberances to pass beneath or below the circle of the os uteri, the prolapsed portion of the neck of the uterus will suddenly withdraw itself from the finger and rise within the pelvis; the vertex will apply itself beneath the arch of the pubes and the labor terminate almost immediately.

I have seen severe traumatism as a result of just such a condition, one of the severest being the almost complete tearing away of the edematous anterior portion of the lip.

I feel that such an injury, by the judicious interposition of skill, could be prevented. It is of the greatest importance that traumatism to the soft parts be avoided, and when by violent contractions of the uterine body a condition inviting severe traumatism to the anterior lip is established, the application of the forceps, whereby the head can be steadied and held in check till the edematous lip has been pushed up and back over the child's head by an assistant, must be considered as our best plan of procedure to overcome this accident.

In connection with rigidity of the os I wish to relate an instance where the obstinacy which the neck of the uterus offered to the passage of the head was of purely a mechanical nature. This labor was advancing well and was natural in its general relations, with the exception that a trachelorrhaphy had been performed some five years prior to this pregnancy. I noticed after some hours of labor that the os was dilating unevenly, that about one-third of the circle on the left side showed no inclination to yield. It became apparent, after some hours of waiting, that the condition was retarding the progress of labor and was causing the woman much suffering. I decided to incise that part of the cervix, reasoning that the firm cicatricial condition was the cause for this delay. My probe-pointed bistoury struck a piece of metal, which proved to be a silver wire suture. It was placed very high and was deeply embedded. Its removal permitted labor to terminate rapidly. Although this happened during my early years of practice, I have not yet forgiven myself for not discovering this obstruction earlier.

I have at times almost lost faith in the words of my dear Professor, when he said: "The shoulders are now to deliver themselves, which they do in the following manner, etc., and when the shoulders are delivered the rest of the body follows immediately." How often have I wished for those shoulders to be delivered. In truth, the shoulders have given me very much trouble, and I can without effort recall a number of cases where my inability to promptly deliver the shoulders almost caused the death of the child. I personally know of several cases where death was caused by the shoulders being caught, if I am permited to use this expression, when delivery could not be effected in time to save the child.

The difficulty encountered here is not so much the size of the shoulders as it is the rigidity of the soft parts (perineum), together with the exhaustion induced from the force or the long continuance of labor. Such an exhaustion may not be a mere loss of strength in the muscular system, as is evidenced by the forceful contractions of the muscles of the perineum, but it may be a state of inertia of the uterus itself. Both these conditions may combine, or they may exist separately and independently. When combined they may be accompanied with syncope, a condition that has given me great concern whenever I have met with it.

I am convinced that the administration of chloroform sufficient to overcome the spasm of the perinei muscles, as soon as the head enters the inferior strait, will be of the greatest assistance in effecting a delivery of the shoulders with the least possible danger of asphyxiating the child. A few experiences with a serious aspect have convinced me of the advisability to administer chloroform only at this stage of a normal labor. We cannot always tell to what extent the uterine powers may diminish as soon as the head is born, nor can we judge the amount of resistance a rigid perineum may offer at this critical period.

Another chapter in my obstetrical experience that has often given me concern was the question when to turn and when not to turn. There are head presentations where version is indicated as offering better chances for the happy termination of labor, and there are presentations again that make turning imperative as possibly offering an only chance for a safe delivery. Some operators are more skilled than others in determining the specific character of a presentation, but we all must agree in acknowledging how difficult it is to correctly diagnose some presentations before the rupture of the membranes. It is here that valuable time is lost, and I cannot help but admit that at times my inability to make out the correct position has caused me much uneasiness. In head presentations where the occiput is posterior, and in face presentations where the chin is posterior to the transverse diameter of the superior strait, I invariably feel strongly inclined to turn, unless I succeed in transforming the existing position into a more favorable one, without changing the presentation. But even with such an encouraging procedure at our command, we must not consider the act of version as entirely free from danger. During the process of a version delivery the child is exposed to a constant risk. There may be compression of the umbilical cord. The compression of the head and chest may have its serious consequences, while the severe extension of the neck may do mischief to the spinal cord.

When necessity obliges me to resort to

version I endeavor to adhere to the principles laid down for this act as closely as possible. I never overlook an opportunity, however, that in my judgment might facilitate my work.. Before using the rubber glove my hand became cramped and fatigued by provoking untimely contractions of the uterus, compelling the withdrawal of the hand that it could recover. With the use of the rubber glove I find that this annoyance has become much less.

I usually satisfy myself with any part of a lower extremity, be it knee, leg or foot, and do not make a prolonged search for simply a foot. In bringing down the foot or the feet it is well to make certain that the toes pass over the face of the child. During the act of turning, the uterine contraction must be respected and no attempt at manipulation be made. After the feet are delivered, every advantage of the pain, if any exist, is taken to facilitate delivery.

I have experienced difficulty in several cases in bringing down the breech when the feet are in the vagina. This condition, although not quite clear to me, was undoubtedly due to the arrest of the head at the superior strait with an unfavorable relation of the diameters. By external manipulation of the head and drawing downward of the body this difficulty was overcome. Sometimes I would find the progress of labor interrupted by the axilla appearing at the vulva. Considerable manipulation is often necessary to extricate the arms. The axilla, next to the sacrum, should be delivered first. great care is to be exercised lest a fracture of or a dislocation about the shoulder should result from too forcible a manipulation. By passing one or two fingers upon the point of the shoulder, exerting firm pressure downward, we trace the arm to the elbow and endeavor to bend it by pressing it on its internal surface opposite the joint. The arm is then brought forward and downward toward the face of the child, when it can be readily brought into the cavity of the vagina. I have invariably found it more difficult to deliver the second arm, especially if the head and arms are both engaged in the small diameter of the superior strait, or when the arm has passed behind the neck. By manipulating the shoulder in the direction the face of the child looks, this difficulty may be overcome more readily than by forcible measures.

In delivering the head I can most emphatically say that that has at no time been an easy matter. It is absolutely necessary that the diameter of the head and the pelvis correspond at the superior strait. If they do not correspond they must be made to. At the inferior strait the most favorable position for the face is in the hollow of the sacrum. It gives us the great diameter of the head in correspondence to that of the lower strait. The head in this situation is almost always without the uterus. We cannot expect, therefore, any aid at this time from the contractions of this organ. If the woman is not under an anesthetic, she must now be solicited to employ her voluntary powers of bearing down that too much force need not be employed by acting on the body of the child. Appreciating the exertions of the mother, we draw the body of the child nearly upward, pressing with two or three fingers upon the occipital bone, carrying it downward so as to disengage it from behind the pubes. An advantage is sometimes gained by depressing the chin, but never by acting upon it, the object in depressing the chin being to prevent it hitching on the folds of the vagina, thus creating accidental delay and difficulty.

In conclusion, I may say that I have often experienced great discomfort in endeavoring to pursue a firm, candid and feeling conduct throughout the whole scene in the face of the many questions and entreaties from anxious relatives, whose infliction is often so trying to the physician.

With curious art the brain, too finely wrought,
Preys on herself, and is destroyed by thought.
Constant attention wears the active mind,
Blots out our powers, and leaves a blank behind.
—*Churchill.*

THE REMOVAL OF ADENOIDS IN EARLY CHILDHOOD AS A PROPHYLACTIC MEASURE.

By Francis Ashley Faught, M.D.,
Philadelphia,

Assistant to the Professor of Clinical Medicine, Medico-Chirurgical College, Visiting Physician Lincoln Day Nursery, Clinical Assistant in Diseases of Women, Philadelphia Polyclinic Hospital.

As a natural result of the great and recent advances in our knowledge of disease conditions, their cause and relation, there has developed a branch of medical science, which has for its chief object the prevention of disease. These results are accomplished through various means. In some instances by the administration of vaccines and specific antitoxines, or by destroying and preventing epidemics through a knowledge of the conditions producing them and the application of methods which will control them. Also by the performance of certain surgical procedures which are known to prevent the occurrences of serious secondary complications.

Chief among the latter may well be considered the operation of adenectomy. First, because of the serious consequences which their neglect entails; secondly, because of the comparative freedom from danger in the operation itself; and thirdly, because of the great and almost startling results which follow.

In presenting this subject for consideration I am not advocating any new method or proclaiming any new discovery regarding the beneficial results of this operation; on the contrary, I am thoroughly aware that this matter has been repeatedly brought to the notice of the profession for more than a decade, with increasing frequence up to the present time. However, from a general survey of the literature pertaining to adenoids and their treatment, I am impressed equally by the great variety of theories advanced as to the cause of the growths and of the secondary disturbances which they occasion.

In the discussions following papers on this subject the reports show that as yet we are divided upon many points concerning the disease and the time and the character of treatment best calculated to obtain satisfactory results. In spite of a confusing array of theories and statistics one cannot fail to note, after due consideration of the evidence presented, that we are dealing with a condition that is very prevalent, far more so than is generally believed; one which is extremely insidious in its approach and development in many cases, and which is often first recognized through its secondary complications, which may by this time have so far advanced that they are past remedy and by their persistence influence the whole life of the individual.

In discussing this condition, A. F. Reynolds[1] says that he believes this affection to be the most formidable enemy of childhood. Also bearing on this point I quote the following from Holt's Pediatrics[2]: "This is a very common condition and one much neglected by the general practitioner. It is the source of more discomfort and the origin of more minor ailments than any other pathological condition of childhood."

Owing to the varying degrees of obstruction, depending upon variations in the size and location of the growth, there are many cases suffering from a moderate degree of stenosis which do not at any time present the classic symptoms. Such cases under careful examination reveal a small growth with some degree of interference in breathing. This may manifest itself only in damp and changeable weather, by partial mouth-breathing at night or after such violent exertions as running or participating in outdoor sports.

It is to these cases particularly that our attention should be directed, since it is in these that there develop the insidious and permanent disturbances, such as impairment of hearing, deformed maxillæ, and diminished respiratory capacity.

In the treatment of these secondary conditions it is not uncommon for the primary cause to remain unsuspected and untreated, thus frustrating our efforts to arrest or cure the condition.

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[1] A. F. Reynolds, Cosmos, 1893. Page 731.

[2] L. Emmett Holt, Dis. of Infancy and Childhood.

The only positive way to detect these cases and so forestall the development of secondary disturbances, is first, to make it an invariable rule of practice to examine all children who come under our care, no matter for what they are presented, and secondly, to advise immediate and adequate treatment in the event of a positive finding,

In commenting upon the treatment of adenoids, Bosworth[3] says: "I think when we consider that the treatment involves no possible risk to the patient, and also that the growth is subject to attacks of acute inflammation, by which danger, ofttimes of a serious character is threatened to neighboring organs, that we are rarely justified in adopting the expectant course. It should be stated, furthermore, that these tumors do not, as a rule, disappear at puberty, but in many cases remain as a permanent source of chronic nasopharyngeal catarrh."

This quotation may be qualified by the statement that with the exception of extreme inanition or the presence of the hemophilic diathesis there are no valid contraindications to the surgical removal of these growths, for apart from the inherent danger in the administration of an anesthetic, there is no danger in these operations themselves.

Delays on account of tender age are without excuse, for the reports of many operations show successful removal in the first weeks of life[4]; the youngest of which I have a report was performed at the early age of three days.[5]

The results of neglect of this condition are many and serious, frequently permanent, often progressive. It behooves us, therefore, to see to it that these cases are not allowed to become chronic and of long standing through our neglect, for then our efforts will meet only with partial success because the secondary complications have become permanent and the damage beyond repair.

Chief among these complications is a chronic catarrhal otitis media, with more or less impairment of hearing. In studying this complication, Frankenberger,[6] in the examination of 159 deaf-mutes, found adenoids present in 59 per cent., while in the general run of children in the same locality it occurred in about 6 per cent.

Deformity of the face and jaws, with irregularity of the teeth and deformity of the chest, producing the well-known "pigeon-breast," with its accompanying diminution in lung capacity and increased tendency to pulmonary affections, are all frequently met as results of this condition. Less frequently we can demonstrate blunted mentality and backwardness in speech and in studies.

The important facts concerning this disease and its consequences cannot be too well understood by the practitioner, nor too frequently reiterated by him to his patients in the course of everyday practice, for it is only by constant teaching and individual instruction, that the pernicious belief so often encountered among parents, namely, that the occurrence of mouth breathing, with its accompanying symptoms and disturbances, are of little import in growing children as they will soon outgrow them, can be counteracted and in its place be submitted a proper recognition of the seriousness and danger of neglected mouth-breathing and its concomitants.

The ultimate result of such regular and systematic teaching will be to awaken parents to their responsibility in this matter. When this shall have been accomplished, the parents will no longer be an insurmountable obstacle to our efforts in the child's behalf; thus assisting in securing a healthy and vigorous childhood. On the contrary, parents may even come to us with a request for examination, with a full knowledge of the benefits existing in this prophylactic measure.

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[3] Bosworth, Diseases of the Nose and Throat, page 307.

[4] Harman Jarecky, *New York Medical Journal*, April, 1904.

[5] Dwight W. Hubbard, Dental Cosmos, 1898, page 310.

[6] Frankenberger, *Annals of Otolog. and Laryngology*, Nov., 1897, page 395.

It should be the duty of every parent to realize and know that continued neglect of this condition may rob the child of its chances for a normal and healthy childhood, and eventually doom it to a life of increased susceptibility to disease, if it has not already become the victim of one or more of the complications.

It is the duty of the physician to familiarize himself with these conditions and to apply his knowledge. It is also his duty to instruct parents concerning the seriousness of the condition and to inform them of the probable course of symptoms, so that they may be on their guard for their appearance, and thereby give their children the benefit of early treatment.

After operation the change in the patient, both physical and mental, is as wonderful as it is rapid. Picture a child suffering from profound disturbance in nutrition, thin and ænemic, below par mentally, and presenting an appearance of a defective, unable to associate with children of similar age in their plays, backward in study and showing more or less disturbance in hearing, annoyed by a cough and a chronic nasopharyngeal catarrh, and subject to the force of every local epidemic. Compare with this the postoperative condition of the same child. Almost before the discomfort of the operation and the subsequent soreness have been forgotten, the face assumes a more intelligent expression, the intellect of the child visibly brightens, the cough and chronic catarrh vanish, and in a short time patient assumes the normal appearance of a child of similar age.

Not only have we relieved the immediate disturbing conditions, at a single sweep of the curette, without danger to the life of the child, but, by far the more important, we have arrested or prevented the development of the secondary and permanent complications which may be of such a nature as to later threaten the life of the patient.

5231 Baltimore Avenue.

THE PREVENTION OF STREAM POLLUTION BY DISTILLING REFUSE.

By Henry Leffmann, M.D.,

Phila., Pa.

Notwithstanding the attention given to the utilization of wastes and the purification of sewage, these problems are still among the most serious in public hygiene. The tendency of population to accumulate in small areas and the large use of water by the water-closet system has rendered necessary the use of surface waters for public supply. As streams are the natural drainage lines for a district, they are bound to receive more or less pollution. Hence, we see, all over the civilized world, schemes for water-purification, since under ordinary conditions streams have little capacity for self-purification. The installation of filters is one of the most expensive features in the operation of a modern city. In many places it will be found cheaper to secure purification of sewage prior to its introduction to the stream.

If the sewage-chemist had to deal only with natural sewage, that is, a fluid contaminated only with the liquid and solid excreta of man and some of the lower animals in domestication, the problem would not be very difficult, for all the materials in such excreta tend to become innocuous by the ordinary processes of bacterial development. In our civilized life, however, manufacturing operations introduce into sewage many substances that are not correlated with natural bacterial action, often indeed directly antagonistic to it. Mine refuse, for instance, mostly mineral, is but little, if at all, affected. In common with some manufacturing wastes, mine refuse may, by chemical change, produce acids which inhibit bacterial action.

A special question of stream pollution has recently been investigated by Herman Stabler on behalf of the U. S. Geological Survey, and his results have been published in a bulletin (Water Supply and Irrigation, Paper 179). The investigations were made at

Lynchburg, Ohio, where pollution of a branch of the Little Miami River was caused by the waste liquors from a distillery. This waste consisted principally of the infusion of grain after fermentation and distillation, but a notable amount of filth from cattle stables was also present. It was foul smelling and, of course, highly polluting. The bulletin gives many details, but space permits only of a summary of results:

a. One part of distillery refuse discharged into 150 parts of water in a stream of moderate fall will produce serious pollution for a long distance below the point of introduction.

b. By screening out the suspended solid matter, about 10 per cent., by volume, can be obtained, which can be utilized as cattle-food at a good profit; an additional 50 per cent. may be utilized as a liquid cattle-food at a slight profit; about 40 per cent. must run to waste.

c. Stream-pollution may be entirely prevented by evaporating to dryness, using the residue as a cattle-food, and the water for making fresh mash.

d. The practical tests at Lynchburg have confirmed the claims made for this method. It is applicable to any distillery that is large enough to pollute a stream with its untreated waste.

The evaporation is conducted by multiple-effect apparatus, an economical method well known to chemical engineers.

39 S. 10th St.

"MANY, if not all diseases—zymotic or otherwise—are due to an impaired equilibrium in the mineral equations of the body. We too often lose sight of these facts, and have too great a tendency to ascribe all diseases to germs alone; we forget the soil, and that we can no more surely attack the germ than by modifying the soil on which it grows."—*Edmond L. Gros, M.D., Paris.*

THE PHYSIOLOGICAL EFFECTS OF WOOD ALCOHOL.

By H. McGuigan,
St. Louis.

UNTIL very recently it was held by most investigators that wood alcohol was less poisonous than ordinary or Ethyl alcohol. Some text books of pharmacology give the relative toxicity of the various alcohols as follows:

Methyl	0.8
Ethyl	1
Propyl	2
Butyl	3
Amyl (fusel oil)	4

It is now known that methyl alcohol, at least when used for some time, is much more poisonous than ethyl. It was probably in a measure due to this erroneous teaching that wood alcohol was used so indiscriminately in tinctures, extracts, the lotions of the barber shop and other places.

At least it gave the manufacturers of all abominable preparations containing it a certain assurance that no damage would result from its use. Its extensive use, however, resulted in numerous cases of poisoning, sufficient to call forth a thorough investigation and it has been definitely shown that the prolonged use of wood alcohol leads to degenerative changes in the retina and optic nerve and finally to blindness. There are other less prominent and less dangerous untoward results, but those mentioned are sufficient to call forth restrictions to its use. Its results are probably due to retention in the body and incomplete oxidation. The formation of formaldehyde and formic acid within the body and their action may explain its toxicity. If this is true the continued use of even small quantities of formaldehyde must be considered unfavorable.

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THE MEDICAL AND SURGICAL KNOWLEDGE OF SHAKSPERE*

with explanatory comments by JOHN W. WAINWRIGHT, M.D.

(*Continued from page* 28.)

SHAKSPERE IN MEDICINE.

Falstaff. Come let me pour in some sack to the Thames water; for my belly's as cold as I had swallowed snow-balls for pills to cool the reins—(passions.) Call her in.

—*Merry Wives of Windsor, Act III., Sc. 5.*

This quotation refers to the aphrodisiac action of alcoholic drinks. Sack was a strong white wine obtained in Shakspere's time from Italy and Spain.

Cornelius. But I beseech your grace, (without offence;
My conscience bids me ask;) wherefore you have
Commanded of me those most poisonous compounds,
Which are the movers of a languishing death;
But, though slow, deadly?
Queen. I wonder, doctor,
Thou ask'st me such a question: Have I not been
Thy pupil long? Hast thou not learn'd me how
To make perfumes? distill? preserve? yea, so,
That our great King himself doth woo me oft
For my confections? Having thus far proceeded,
(Unless thou think'st me devilish) is't not meet
That I did amplify my judgment in
Other conclusions? I will try the forces
Of these thy compounds on such creatures as
We count not worth the hanging, (but none human.)
To try the vigor of them, and apply
Allayments to their act; and by them gather
Their several virtues and effects.
Cornelius. Your highness
Shall from this practice but make hard your heart:
Besides, the seeing these effects will be
Both noisome and infectious.
(Aside) I do not like her. She doth think she has
Strange lingering poisons:
* * * * * Those she has
Will stupefy and dull the sense awhile:
Which first, perchance, she'll prove on cats and dogs:
Then afterward up higher: but there is
No danger in what show of death it makes,
More than the locking up the spirits a time,
To be more fresh reviving.

—*Cymbeline, Act I., Sc. 6.*

Here we find mention of vivisection or the testing of remedies on the lower animals.

*Copyright

SHAKSPERE IN MEDICINE.

Pisano. Here is a box: I had it from the queen;
What's in't is precious; if you are sick at sea,
Or stomach-qualmed at land, a dram of this
Will drive away distemper.———
—*Cymbeline, Act III., Sc. 4.*

This box it will be remembered contained poison, intended for Imogene, of whom the Queen was jealous.

Cornelius. She did confess she had
For you a mortal mineral; which, being took,
Should by the minute feed on life, and ling'ring
By inches waste you:

* * * * * * * * *

The queen, sir, very oft importun'd me
To temper poisons for her; still pretending
The satisfaction of her knowledge only
In killing creatures vile, as cats and dogs,
Of no esteem: I, dreading that her purpose
Was of more danger, did compound for her
A certain stuff, which, being ta'en, would cease
The present power of life; but, in short time,
All offices of nature should again
Do their due functions.
—*Cymbeline, Act V., Sc. 5.*

The learned class in Shakespeare's time and for ages before were much given to the study of chemistry and, in a way, pharmacy; chemistry in the hope of fame and fortune, pharmacy more for the poisonous substances than the curative remedies. To poison an enemy was the easiest means of getting rid of him without the friends being able to fasten the guilt upon any one. Analytical chemistry had not been so developed as to make the detection of poisons certain. For this reason the practice of wholesale and individual cases of poisonings were, as history informs us, so general.

Banquo. Were such things here as we do speak about?
Or have we eaten on the insane root,
That takes the reason prisoner?
—*Macbeth, Act I., Sc. 3.*

Hemlock was called the insane root because it was supposed to cause insanity in those who used it.

SHAKSPERE IN MEDICINE.

Lady Macbeth. I have drugged their possets,
That death and nature do contend about them
Whether they live, or die.
—Macbeth, Act II., Sc. 2.

Evidently opium in some form.

Porter. ——and drink, sir, is a great provoker of three things.
Macduff. What three things does drink especially provoke?
Porter. Marry, sir, nose painting, sleep, and urine.
Lechery, sir, it provokes, and unprovokes; it provokes the desire, but it takes away the performance: therefore much drink may be said to be an equivocator with lechery: it makes him, and it mars him; it sets him on, and it takes him off; it persuades him, and disheartens him; makes him stand to, and not stand to: in conclusion, equivocates him in a sleep, and, giving him the lie, leaves him.
—Macbeth, Act II., Sc. 3.

A clear and concise statement of the effects of alcohol, particularly its effect upon the sexual organs.

Witches. Root of hemlock digg'd i' the dark;
Liver of blaspheming Jew;
Gall of goat, and slip of yew,
Silver'd in the moon's eclipse.
—Macbeth, Act IV., Sc. 1.

It is difficult to isolate the drugs or poisons made use of by Shakspere. The poison is needed to work out in part the wishes of the author and it does not appear that he always knew of their exact toxicological action. However, the dramatic effect is ever in evidence; when wanted they serve a well defined purpose.

Brabantio. Judge me the world, if 'tis not gross in sense,
That thou hast practiced on her with foul charms;
Abused her delicate youth with drugs or minerals,
That weaken motion:—I'll have it disputed on;
'Tis probable, and palpable to thinking.
I therefore apprehend and do attach thee,
For an abuser of the world, a practiser
Of arts inhibited and out of warrant.

* * * * * * * * *

SHAKSPERE IN MEDICINE.

I therefore vouch again,
That with some mixture powerful o'er the blood,
Or with some dram conjured to this effect,
He wrought upon her.

—Othello, Act I., Sc. 2.

Charms and love potions were thought to influence either sex and was a means to secure the affections of the one loved. Even to this day the negro of the South believes in charms. Magnetic ore is most efficient and needs but to be carried by one to have the effect of a hoodoo or evil charm made inoperative while love-powders are often used, druggists selling some harmless powder to be used in the food or drink unknown to the taker.

Iago. ; fill thy purse with money: the food that to him now is as luscious as locusts, shall be to him shortly as bitter as coloquintida.

—Othello, Act I., Sc. 3.

Colocynth.

Iago. Look, where he comes! Not poppy, nor mandragora,
Nor all the drowsy syrups of the world,
Shall ever medicine thee to that sweet sleep
Which thou ow'dest yesterday.

—Othello, Act III., Sc. 3.

Unhappy and doomed Othello. Never were loyalty and perfect love so abused. Calumny, deceit, ingratitude, nor the fiends of hell were enemies like unto your Ancient. Brave, and courageous to a degree, ready to meet like the gladiators in Rome any number of goodly men in single combat, thy strong heart, fearless of injury, soldier to the core, this is not of the kind thou hast met; she the chaste, the beautiful, the good must be assassinated and thy noble self damned in self destruction. Aside from Hamlet and Lear, there is no character in fiction so real, so human to which the student of psychology can turn with so much profit. Alas, unhappy Othello.

Iago. The Moor already changes with my poison:
Dangerous conceits are, in their nature, poisons:

SHAKSPERE IN MEDICINE.

Which, at the first, are scarce found to distaste;
But, with a little act upon the blood,
Burn like the mines of sulphur.

—Othello, Act III., Sc. 3.

Othello. Drop tears as fast as the Arabian trees
Their medicinal gum.

—Othello, Act V., Sc. 2.

Cleopatra. Ha, ha!
Give me to drink mandragora.
Charmian. Why, madam?
Cleopatra. That I might sleep out this great-gap of time,
My Antony is away.

—Antony and Cleopatra, Act I., Sc. 5.

Mandragora a hypnotic was also esteemed an aphrodisiac.

Falstaff. If the rascal have not given me medicines to make me love him, I'll be hanged; it could not be else; I have drunk medicines.—

Poins. Hal! a plague upon you both.

—Part First, King Henry Fourth, Act II., Sc. 2.

This passage refers to the aphrodisiac action of some drug taken with drink.

Falstaff. ————though the chamomile, the more it is trodden, the faster it grows.

—Part First, King Henry Fourth, Act II., Sc. 4.

King Henry. And thou shalt prove a shelter to thy friends;
A hoop of gold, to bind thy brothers in;
That the united vessel of their blood,
Mingle with venom of suggestion,
(As, force perforce, the age will pour it in,)
Shall never leak, though it do work as strong
As aconitum, or rash gunpowder.

—Part Second, King Henry Fourth, Act IV., Sc. 4.

Hubert. The king, I fear, is poisoned by a monk:
I left him almost speechless, and broke out
To acquaint you with this evil; that you might

SHAKSPERE IN MEDICINE.

The better arm you to the sudden time,
Than if you had at leisure known of this.
Bastard. How did he take it? Who did taste to him?

Hubert. A monk, I tell you; a resolved villain,
Whose bowels suddenly burst out: the king
Yet speaks, and, peradventure, may recover.
—*King John, Act V., Sc. 6.*

The quotation "bowels suddenly burst out" doubtless refers to a sudden diarrhea which is a symptom of arsenical poisoning. It will be remembered the King was poisoned presumably by arsenic, as was the monk who to induce him to partake, himself drank a portion of the fluid.

Norfolk. What are you chaf'd?
Ask God for temperance; that's the appliance only,
Which your disease requires.
—*King Henry Eighth, Act I., Sc. 1.*

Duke of Suffolk. Wherefore should I curse?
Would curses kill, as doth the mandrake's groan,
I would invent as bitter searching terms,
As curst, as harsh, and horrible to hear,
* * * * * * * * *
As lean-faced envy.
—*Part Second, King Henry Sixth, Act III., Sc. 2.*

MANDRAGORA ROOT.

Mandrake here mentioned is not our May apple but a species of solanacea, which flourishes in Asia Minor. It is identified with the mandragora so often mentioned by Shakspere.

Frequent mention of mandragora is made by the classic writers. It was esteemed as possessing other than medicinal or toxi-

SHAKSPERE IN MEDICINE.

cological properties, because of the superstition that it grew best and possessed greater worth when grown over the buried remains of an executed criminal. The peculiar shape of the roots—forked and divergent—gives it a somewhat human-like appearance. The gods of mythology were supposed to make frequent use of this plant and its roots. When the plant was pulled from above the dead, groans and shrieks were heard and those who were unfortunate enough to hear them either died at once or became insane. It can, therefore, be easily imagined that the great peril in securing so valuable a plant induced those wishing it to resort to some measure that would free the person from the hearing of the fatal noises. One method was to entice a dog into the burial ground, fasten him by cords to the plant, and after sealing one's ears with some substance which would prevent hearing the perilous sounds, run for life; the dog would struggle to follow and thus tearing the plant from the ground bring it to his master, who happily escaped the miserable end. The dog was, however, a sacrifice, as he was soon to perish.

Juliet, in Romeo and Juliet, Act IV., Sc. 3, refers to this superstition regarding the evil sounds:—

"For these many hundred years the bones
Of all my buried ancestors are packed
* * * * * * * *
So early waking,—what with loathsome smells,
And shrieks like mandrakes torn out of the earth,
That living mortals, hearing them run mad."

It was esteemed as a local anesthetic, having been given as a wine of mandragora to those about to be crucified.

The mandrake or mandragora is found by modern investigations to possess narcotic properties—producing in some instances hysterical excitability—as well as being a hypnotic similar in action to belladonna. An alkaloid has been extracted which has properties similar to the mydriatics, atropin and hyoscyamin. It was used by the ancients also as an aphrodisiac.

Friar Lawrence. Now, ere the sun advance his burning eye,
The day to cheer, and night's dank dew to dry,

SHAKSPERE IN MEDICINE.

I must up fill this osier cage of ours
With baleful weeds, and precious-juiced flowers.

* * * * * * * *

Many for many virtues excellent,
None but for some, and yet all different,
O, mickle is the powerful grace that lies
In herbs, plants, stone, and their true qualities:

* * * * * * * *

Within the infant rind of this weak flower
Poison hath residence and med'cine power;
For this, being smelt, with that part cheers each part;
Being tasted, slays all senses with the heart.
—*Romeo and Juliet, Act II., Sc. 3.*

Friar Lawrence. Take thou this phial, being then in bed,
And this distilled liquor drink thou off:
When, presently, through all thy veins shall run
A cold and drowsy humour, for no pulse shall keep
His natural progress, but surcease to beat:
No warmth, no breath, shall testify thou liv'st,
The roses in thy lips and cheeks shall fade
To paly ashes; thy eyes' windows fall,
Like death, when he shuts up the day of life;
Each part, depriv'd of supple government,
Shall, stiff, and stark, and cold, appear like death.
And in this borrow'd likeness of shrunk death
Thou shalt remain full two-and-forty-hours,
And then awake as from a pleasant sleep.
—*Romeo and Juliet, Act IV., Sc. 1.*

It is impossible to say what, if any drug or combination of drugs was used by Friar Lawrence to produce this semblance of death in Juliet. We know that there are numerous narcotics which will produce prolonged sleep, but in all cases the pulse is in evidence. There is also bodily warmth and breathing which can be determined. Opium which was largely used in Shakspere's time and in fact for centuries before could not have been the drug here described. While opium pushed to complete narcosis will produce apparent death, there would surely be recovery or death short of "two and forty hours." Besides this semblance of death would have been discovered by the stertorous breathing, and this alone would have been sufficient to disclose to Paris, life in Juliet.

(*To be continued.*)

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EDITORIAL.

TUBERCULOSIS IN SWINE.

It will be a surprise to physicians, we think, to learn that tuberculosis prevails to quite an extent in hogs. It is generally known that cattle are susceptible to the disease and that there are very many unsuspected cases in properly cared for cattle while veterinary surgeons are agreed that only by heroic measures, if at all, will it be eradicated. The Bureau of Animal Industry informs us that tuberculosis in hogs is largely on the increase. Previous to 1900, hog carcasses condemned for tuberculosis averaged one in 11,152 carcasses inspected. During 1900 the number of cases had increased 100 per cent. In 1903 there were condemned one hog in 1076 carcasses inspected.

In comparison with swine we find that in 1903 one in 717 carcasses of cattle inspected under government supervision were found tuberculous. This was 75 per cent. increase over that found during the six previous years, while the number of hogs condemned during the same period showed an increase of over 1000 per cent. In 1903 more hogs were condemned for tuberculosis than for both hog cholera and swine plague.

The Secretary of Agriculture in his report for 1905 states that it is not unusual to find herds of dairy cattle where 50 to 90 per cent. of the animals were affected with tuberculosis, while in the larger abattoirs 3 per cent. of the hogs slaughtered had the disease. He further comments upon the cause of the increase of the disease in swine and attributes it to the feeding of milk from tuberculous cattle and the pernicious habit of allowing hogs to eat of the carcasses of slaughtered cattle or the viscera of those unsuspected of having the disease.

Creameries, after running the milk through separators, return it to the farmers for feeding purposes. Much of this is fed to hogs. If in the tanks containing the milk there be present the milk of but one tuberculous cow the whole is contaminated and every hog or calf fed with this milk is exposed to infection. Sterilization of this milk before delivery to the farmer will reduce the danger of infection but will not obviate it entirely as has been shown by Calmette of the Pasteur Institute of Paris.

Another source of danger is in allowing hogs and cattle to inhabit the same field or barn yard, where they will eat the grain and droppings from the cattle.

GELATIN INJECTIONS.

Lanceraux and Paulesco were the first to apply this method to the cure of aneurysms. The incentive to their action emanates from the experiments of Dastre in 1895, who showed that the injection of solutions of gelatin into the veins of dogs enhanced the coagulability of the blood. The first case in which this method was given trial in disease was in a man with a large aortic aneurysm. Fifty C. C. of a 1% sterile gelatin solution were injected subcutaneously into the thigh. After twelve injections the patient was markedly improved. Subsequently two aortic and one subclavian aneurysm likewise treated were benefited. Huchard reported an aneurysm of the arch cured by twenty injections.

For the control of possible hemorrhage, gelatin injections have been made one hour prior to operations; 200 C. C. of a 2% gelatin solution is sufficient. Hemorrhages from the larger vessels by this means were not controlled, while hemorrhages from the smaller vessels during such operations were found to be slight. Subsequent hematomata formed. The urine drawn two hours after operation contained a mucine substance. Success has attended the use of gelatin solutions for the control of epistaxis in hemophiliacs. Experimental research tends to show that gelatin injections enhance coagulation, if loss of blood previously has been considerable, for then the blood has greater affinity for gelatin in solution.

A rise of temperature, transient albuminuria, pruritus and restlessness follow the injection which last for from 2 to 24 hours. A complicating nephritis contraindicates the use of gelatin.

Moriani has collected the literature bearing on gelatin injections. In addition he reports three cases of aneurysm of the aorta; in all there was marked success. Diminution of swelling, pulsation and dullness. Three cases of hemoptysis were transiently benefited. The final opinion of Moriani is that the improvement in aneurysms is not lasting. Three cases are reported by Connor. Two received three injections and one seven. In two cases the injections were so painful that they had to be discontinued. This, if it prove to be the rule, will seriously impair the usefulness of this operation. None of the cases treated by this author were cured, one alone was but slightly benefited. A second case grew worse and a third died of rupture.

Rankin has reported four cases of aneurysm (three aortic, one abdominal) treated, with favorable results, by Lancereaux's method of gelatin injections. His experience tends to show: (1) That gelatin injections may, with proper precautions, be given subcutaneously with safety; (2) that they produce a marked and speedy decrease in all of the subjective, and in some of the objective, symptoms presented by internal aneurysms; (3) that this relief of symptoms is only explainable on the theory of a diminution in pressure effects from shrinkage in size of the aneurysmal sac; (4) that this diminution in size, accompanied with marked increase in resistancy of the tumor wall, was capable of physical demonstration in three of the cases treated; and (5) that the after histories of the patients, so far as they could be obtained, afforded evidence that probably the mitigation continued.

In the nine cases to which Futcher applied it, there was appreciable reduction in the subjective symptoms referable to pressure.

Technic as practiced by Lanceraux is as follows: Gelatin solution consists of best white gelatin 4 to 5 grams (60 to 75 grs.), sodium chlorid 7% to 10% in 200 C. C. (6 oz. and 2 dr.) distilled water. This is sterilized by fractional sterilization in a rubber balloon. Before use, it is heated to 37° C. (98.6°F.) and within one-quarter of an hour 560 C. C. (17½ ozs.) are injected subcutaneously.

Absolute rest is enjoined in addition and the sac must not be palpated. This procedure is to be repeated every 6 to 7 hours until the sac is obliterated. If a collateral branch rises from the sac, weaker solutions of gelatin, 1% or 1½%, should be injected at intervals of 8 to 10 hours.

Dangers of Gelatin Injections.—Several deaths have been reported from the injections of gelatin to control severe hemorrhages; septic thrombosis, phlegmons, malignant edema, and tetanus resulting. Chauffard states that eighteen fatal cases have been reported of death from tetanus from this procedure. Dieulfoy reports five similar cases of tetanus. The fatality necessarily follows the use of gelatin in which tetanus spores existed. Levy and Bruns discovered tetanus bacilli in eight out of thirteen specimens of gelatin examined.

Sterilization in order to destroy the bacillus should be continued for forty minutes at a temperature of 100° to 120° C. (212° to 248° F.) This degree of heat does not destroy the therapeutic value of gelatin and renders it void of danger.

LAVAGE.

This term was originally employed to concisely express the procedure of washing out the stomach. Of late it has been extended to washing out of the intestine.

Lavage of the stomach has for its object the removal of stagnant articles of food followed by a liberal flushing of the stomach with various solutions. Such a lavage may be undertaken merely once in order to gain information concerning the digestion of the food ingested; incidentally, the volume of water introduced is an aid in outlining the typography of the stomach by percussion. The chief aim, however, of lavage is to prevent the decomposition of stagnant foods, and thus by their removal avoid the irritation to the stomach walls and prevent the absorption of toxic products. By this means, the stomach is put in the best position to recuperate its motile and secretory functions. A stasis of food is found in a degree varying with the extent of dilatation; the dilatation being dependent on atony of the muscular coats, or due to an obstruction at the pylorus which constitutes the most frequent indication for lavage of the stomach.

Derangements of digestion due to secretory disturbances of the stomach are likewise benefited by lavage. Ulcer of the stomach, however, constitutes a decided contraindication to lavage. Irritant poisons taken for suicidal purposes are best removed by lavage with the antidote. Alcoholic gastritis is successfully treated by lavage each morning. The obstinate vomiting of pregnancy may as a last resort be treated in this manner. Vomiting associated with peritonitis often yields to lavage with lukewarm water. Some operators make it a routine practice to wash out the stomachs of all cases of internal obstruction prior to operation. This prevents in a great measure post-operative vomiting and minimizes chances of vomiting during operation with its coincident danger of inspirating food, which is bound to result in pneumonia, and, finally, where in haste an operation has to be performed and there is a full stomach, the latter had best be first emptied of its contents by lavage.

Technic. The patient should be seated with body erect and the physician directly in front. For an adult, a tube the size of 30 F. catheter suffices. This tube is softened in boiling water, and if desired, may be lubricated with glycerine, though experience has taught that all annointing is unnecessary and tends to nauseate the patient. The head of the patient should be in the position during eating. The tube is made to enter the mouth and touch the pharynx, along which it is allowed to glide until in the embrace of the esophagus. At this stage efforts of swallowing will facilitate a descent of the tube into the stomach. In infants, more than in adults, the tube has to be guided along the esophagus; where it is not possible to open the mouth, the tube may have to pass in at the nasal passage. To the free end of the tube a funnel is attached and into it a quantity of warm water (104 F.) rendered saline with sodium chlorid or alkalin with sodium bicarb, is poured. As soon as the air is displaced in the tube the funnel is lowered and the siphonage is started. The stomach contents once withdrawn, water may be introduced and siphoned off until the washings become clear. The severity of the case determines the frequency.

Lavage of the intestine can only be extended to the colon. It is practised for mucous colitis, dysentery, invagination, prolapse of the rectum, and in an empirical fashion in jaundice due to catarrhal duodenitis. For the latter affection alone, ice water is employed. To accomplish a thorough lavage of the large intestine, the rectum must be cleared by a low enema. Then follows the introduction of a tube well lubricated with vaselin.

In introducing the tube one must have regard for the turn of the rectum into the hollow of the sacrum and its next twist to the left—the promontory of the sacrum. The fluid used had best be injected with an 8 ounce hard-rubber hand syringe, which is to be preferred to the fountain syringe since we cannot apply to the latter the necessary resistance. To favor the flow of fluid the patient may lie with his hips elevated in the Sym's position or in the knee elbow attitude. Lavage for the reduction of invagination is to be carefully performed during narcosis, if the child be violent, in which case the pressure of water should not exceed 2-3 feet. For prolapse of the rectum, the quantity of water need not be great, while it should be cold, and contain astringents, tannin, one teaspoonful to a quart of water, or silver nitrate, 1%. For catarrhal affections of the colon, and dysentery, the first lavage should be a cleansing one to remove the mucus. This is best done with an alkaline wash; then may follow the variety of medicinal lavages, starch to allay irritability with tincture opii or iodized starch for its antiseptic value. The best astringent douches are solutions of alum, zinc sulfate or nitrate of silver. The sedative douches may be often repeated, but the astringent douches must be used with caution and never to the point of irritability. McEwen states that lavage of the stomach is indicated in:

1. Gastric pain or marked oppression which has lasted a long time, which is getting worse, and which is not relieved by the ordinary methods of treatments.

2. In nausea and vomiting which resist ordinary treatments by drugs.

3. In waterbrash with canker sores in the mouth, throat and esophagus.

4. In sick headaches with vomiting of bile.

5. In belching of wind.

6. In dilatation of the stomach, not temporary, but permanent dilatation.

7. When there is no organic disease of stomach, but when patients have lost flesh and strength through either phthisis, Bright's disease or hysteria.

According to Hemmeter, Diseases of the Stomach, p. 202, the contraindications for lavage, are:

1. Pregnancy.

2. Heart disease—in a state of defective compensation—heart neuroses, angina pectoris, myocarditis, and fatty heart in an advanced stage.

3. Aneurisms of the larger arteries.

4. Recent hemorrages of all kinds, including apoplexies, pulmonary, renal and vesical, gastric, rectal hemorrhages and hemorrhagic infractions.

5. Advanced pulmonary tuberculosis and advanced pulmonary emphysema with bronchitis.

6. Apoplexy and cerebral hyperemia.

7. Advanced cachexia.

8. Presence of continued or remittent fever.

9. Ulcer with recent hematomesis and evidences of blood in the stools.

10. Palpable carcinoma of the pylorus with coffee ground material and the classical symptoms of cancer.

11. Stomach or intestinal troubles with acute fever.

12. Gastric mucosa easily started to bleeding.

13. Secondary gastric affections whose dependence upon a distinct and more important primary disease is evident.

Lavage, says Caillé, is indicated in acute gastritis, acute poisoning, cholera infantum, chronic indigestion, with atony of the stomach, when there is difficulty in feeding, in persistent vomiting and previous to operations on the stomachs of children. When it is necessary only to clear the stomach of irritating material, a simple washing is sufficient. In chronic cases of irritable stomach, a washing every other day will answer.

The irrigation fluid should consist of water which has previously been thoroughly boiled and used at the body temperature, occasionally adding a teaspoonful of sodium bicarbonate whenever it is advisable to have an alkaline solution.

He gives the following instructions for performing lavage in children: the child should be held upright in the nurse's lap, with the head inclining forward so as to favor the ready escape of saliva or the contents of the stomach. A fountain syringe attached to a glass T connected with flexible catheter at one end and a waste tube at the other. Care should be observed not to pass the tube into the larynx, nor should the tube be large enough to compress the larynx. The sound of the child's voice will indicate whether the tube is taking the proper course. The stomach must not be filled to overflowing, unless for the purpose of expelling large curds of milk which will not flow through a number 12 or 14 flexible catheter. When it is necessary to fill a child's stomach to overflowing, the body should be bent forward or it should be placed upon its side. A simple washing out of a child's stomach may be accomplished by having it swallow a quantity of warm water and causing it to vomit by placing the finger in the throat.

THE AUTOMOBILE AS A MENACE TO HEALTH.

It is only necessary for one to traverse Fifth avenue or Broadway in New York City to become aware of the extent to which the atmosphere which all citizens are compelled to breathe is vitiated and harmful. Automobiles whiz along these streets as they do other streets and rural highways, leaving a trail of gasoline vapor so dense and stifling as to compel one to gasp, cough and sneeze. That the inhaling of this vapor, mixed as it is with smoke and dust torn from the unclean streets, is injurious to health will be conceded; that it has become a nuisance and menace to the health of those living, doing business as well as passing along the streets need not be argued. Why then are our health authorities and other officials charged with the maintenance of healthful conditions in our cities inactive? Surely there are ordinances regulating less harmful conditions in our cities and health authorities charged with seeing that they are observed. Why could not denatured alcohol be used in these machines instead of gasolene? This together with clean streets would make travel and residence on our thoroughfares much more agreeable and healthful.

EXAMINATION OF URINE.

The following offers a ready method for the hasty examination of urine:

Put a drop of urine on a strip of white filtering paper, heat it slowly and carefully, and if sugar be present, the spot dries with a yellowish brown to a deep brown, depending on the amount. If albumen be present, the color is yellow, merging perhaps into yellowish red. Chloroform is a test for bile. A few drops added to urine in a test tube will cause it to become turbid and acquire a yellowish tint, darker or lighter, according to the quantity of bile present. Perchlorid of iron develops a blue tinge if the patient is a morphin eater.

AN EPISODE.

A middle aged gentleman with white hair and beard was recently passing through Bryant Park, New York, intent upon keeping a business appointment on upper Fifth avenue, when he saw at some distance in front of him two beautiful children, little girls, of perhaps four and six years of age. They were evidently sisters for they were dressed exactly alike; healthy, active children enjoying an afternoon's play in the park in the care, apparently, of a grandmother, a sweet faced old lady.

What seemed to be the father of the children, a fireman in full uniform, was in conversation with the lady, while the children were amusing themselves not far away. The strange gentleman in deep thought concerning the outcome of the important interview, caught sight of the children. His expression at once changed, the absorbed look giving place to one of deep, tender and sympathetic interest. The little girls seemed to see him at this particular time, and as from an inspiration, with smiling faces ran towards him. He leaned forward with outstretched arms, caught them one at the time, lifted them in turn to his breast where he pressed them tenderly and kissed each upon the cheek. With one clinging to either hand, they proceeded towards the man and woman. As the three came abreast of the two, the little girls dropped back while the gentleman with a tear on each cheek and the tenderest of looks passed on alone. As he passed, however, the father removed his cap, saluted and stood at attention, and remained so until the gentleman at some distance turned, returned the salute, threw kisses to each of the little girls who further heightened his pleasure by throwing numbers of kisses to him. He then passed out of the park, into another world and was gone.

The incident was doubtless soon forgotten by the children, but it is safe to say that the recipient of their unprompted and loving salutation will hug to himself the memory of the episode for years to come; on the thronged thoroughfare; in the busy office; in the hours when the lights are out and the thoughts turn to things holy and sacred, visions of two sweet and innocent little girls, with the smile of loving confidence and comradeship will be his frequent companion.

O blessed childhood; blessed visions of days that are free from guile and troubles; days that take us back to a mother's knee, to a dear one's breast, linking us to that eternal companionship of peace and happiness.

"The little maid that smiled at me
This side of heaven I may not see,
But if wings of time have flight as far
To her who passed me like a star,
Come, gentle Providence praise,
Sweetness of life and length of days,
With heart so pure and soul as free
As looked from out her eyes at me."

THE OPEN-AIR TREATMENT OF PNEUMONIA.

Northrup in the *Journal of the American Medical Association*, October 13, 1906, says that for more than eleven years he has been treating pneumonia patients in cool fresh air, gradually pushing the beds nearer and nearer the open window, while but recently at the Presbyterian Hospital in New York City he placed them out on the roof even in winter for six hours during the day, excepting when high winds, rain or snow prohibited.

In them in many instances the patients were left out when there was but little rain or snow and many times when high snow banks formed about the space in which the beds were grouped. There were wind brakes which afforded some protection. This is a routine treatment at the Presbyterian Hospital adopted after observation and experience.

Northrup concludes that plenty of water inside and fresh air everywhere outside offers the best means to give the blood, the organs and the body cells the power to counteract the deleterious effects of the infecting agents in pneumonia.

He gives case summaries in illustration and declares that those cases most favorably affected by the open-air treatment are those with severe poisoning, delirium, partial cyanosis or stupor, but that all cases fare better in the open air; that in his opinion no case of pneumonia was injured by this treatment. He has also tried the open-air treatment in typhoid, severe bronchitis, whooping cough with bronchitis and convulsions, with excellent results. The feet should be kept warm, but the ears, nose and hands may get cold without harm.

There was in the discussion of Dr. Northrup's paper, some objection to this treatment for infants, it being thought too severe or radical, but others declared in its favor, having seen unusually good results follow.

PROPHYLAXIS.

John L. Heffron in the *Therapeutic Gazette* for October, 1906, says that prophylaxis should be the high aim of every conscientious physician, for when one contemplates the fact that our present day knowledge is exact as to how to prevent the ravages of smallpox by vaccination, of typhoid fever by the destruction of the infectious principles in the excretions, of malaria and yellow fever by controlling the breeding places of the known varieties of mosquitoes from which man receives the infectious agent or through protection from them by mechanical means, of tuberculosis by the destruction of the bacilli in the sputum or from local lesions, of diphtheria and scarlet fever by rigid quarantine and the use of specific sera, it is appalling and discouraging to realize that through ignorance, prejudice and carelessness, these diseases are still slaying their thousands; their tens of thousands. He thinks that a certain amount of responsibility for this condition of things inevitably rests upon the shoulders of members of the medical profession. That much has been accomplished in the prophylaxis of disease can not be gainsaid, for the introduction of public water systems and of sewers, laws requiring notification of communicable diseases, the isolation of the patient and the disinfection of the house at the termination of the disease, has caused a large decrease in the death rate from zymotic diseases, not less than 30 per cent. in London in the first decade during which these laws were enforced, although the general death rate fell but 3 per cent. Until we adopt the policy of enforcing the laws relating to sanitary problems and enforce a special education for such physicians and sanitariums as propose entering the public health service even in obscure districts, we must expect inefficient service as make possible our uncomplimentary record in controlling communicable diseases.

Prophylaxis is closely related to therapeutics and like therapeutics has developed largely during the past half century. We have a very convincing evidence of what prophylaxis can accomplish in the records given us of the health of the Japan Army and Navy during their late war with Russia.

THE BROMIDS IN EPILEPSY.

Spratling, in the *New York State Journal of Medicine,* October, 1906, referring to the treatment of epilepsy, says that the physician who fails to prescribe in writing an appropriate diet for his epileptic patients, fails in one of the most important parts of the treatment. Individual idiosyncrasies should be respected, the object being to secure the best nourished patient.

Speaking of the bromid treatment, he says further that it has done more to retard the successful treatment of epilepsy than anything else, in fact, in his judgment has been as irrational as it has been universal. In the pre-bromid days the percentage of cures in epilepsy according to accepted authorities was greater than now. He believes that the bromids have a limited sphere of usefulness in epilepsy in that they lessen cortical irritation and hold attacks in check while other forms of treatment are being applied and having an opportunity for action. In themselves alone he believes the bromids powerless to cure epilepsy.

If you are to give the bromids, begin with six or eight grains three times a day an hour after meals in a full glass of water, the more water the better. In a month increase the dose to ten grains three times a day, but do not go beyond fifteen grains, unless for a limited time to check serial attacks or status epilepticus. Keep the bowels freely open; the skin active by baths and massage and the danger of bromid acne or general brominism will be lessened. In these times one can adopt Toulouse's method of salt starvation and get better results from fifteen grains of bromid a day without sodium chlorid in the food, than with thirty grains and the usual amount of salt in the food. Reports indicate that before the bromids were used the percentage of recoveries was larger than now.

Here are some results of treatment before the adoption of the bromid treatment:

Hufeland,	5	per cent.
Russell Reynolds,	10	" "
Troussear,	13	" "
Herpin,	15	" "

Since the bromid treatment the following are given by Turner in the Transactions of the National Association for the Study of Epilepsy, Vol. III, 1906:

Nothnagel,	4 to 5	per cent...
Spratling,	5	" "
Laehr,	6	" "
Ackermann,	7.6	" "
Dana,	5 to 10	" "
Wildermuth,	8.5	" "
Habermass,	10.3	" "
Alt,	12	" "

THE VARIOUS USES OF ERGOT.

O. T. Osborne, in the Boston *Medical and Surgical Journal* of July 14, 1906, writes of his experience with ergot, summarizing his conclusions as follows:

Ergot is indicated to contract the blood vessels, raise the blood pressure, stimulate the heart in shock, collapse and circulatory depression. To contract the blood vessels of the brain and spinal cord, especially of the meninges when they are acutely inflamed, irritated or congested. When given hypodermically, Osborne thinks that ergot is more useful than any other drug. He also finds it useful in neurasthenia or general weakness accompanied with insomnia when given at night and to relieve congestive headache when there is absence of high blood tension.

Ergot is also useful in quieting the pains of inflammation and irritation of the nerves especially when the irritation is of central origin. To promote activity of the bowels when there is intestinal muscular debility, paresis or paralysis as in tympanitis after operation or in case of obstinate constipation. Given after operation Osborne believes ergot superior to other remedies such as atropin, eserin or various cathartics. In ordinary constipation he has frequently had splendid results from the addition of ergot to laxatives.

In asthma due to nervous irritability or reflexes; in those cases when there is persistent wheezing or frequently recurring attacks at night, ergot will prove of great benefit. In excessive secretion of the thyroid which occurs in certain forms of hysteria or Graves disease, it will modify or diminish the secretion. When there is lowered blood tension, hot flashes, profuse sweating, increase of nervous symptoms and sleeplessness it will act with benefit, but should not displace other remedies such as strophanthus, the bromids, antithyroid serum, rest, physical and mental, and diminished diet. Its use of course is understood when there is uterine hemorrhage. It should not be given during the menstrual period.

In the treatment of morphin, opium, alcohol or various other drug habits to quiet the nervous system, ergot will be found useful.

PNEUMONIA TEMPERATURE.

Fever has been shown to be a conservative process and not a phenomenon to be savagely attacked. Among the most significant demonstrations of the effect of temperature in disease is noted in pneumonia. (Hunterian Oration 1895, by George Eastes).

When the specific cause of the disease, the pneumococcus, is destroyed by exposure to a temperature of 104° F. for three or four days, whereas at a lower temperature, but still above normal in man its destruction is not accomplished short of fourteen days. The deduction is that he who effects a diminution in temperature in pneumonia by drug interference, by just so much diminishes the prospects of the rapid recovery of his patient.

Heffron in *Therapeutic Gazette,* October, 1906.

LONDON LETTER.

The main feature of interest from the health point of view in London during the past few weeks has been the great prevalence of influenza. The death rate from the affection has not been high, indeed a characteristic of the present epidemic is its mild type. Influenza in England has changed its character, and is of a different type from that pestilence which is known as Russian influenza, and coming from the East spread death on all sides. In those days great Britain was a virgin soil; now by repeated epidemics a comparative degree of immunity to the disease would appear to have been conferred upon the inhabitants of the British Isles.

A committee has been appointed by the British government to report upon the metropolitan ambulance arrangements. This committee is to report on provision made for dealing with cases of accident or of sudden illness in the street, and to report on improvements needed in London ambulance service. It is a notorious fact that the methods in vogue in London for conveying injured or sick persons to hospitals are both primitive and inadequate, and far behind the ambulance service of the majority of American cities.

The investigations into the canned meat industry of Chicago which produced the well known revelations brought forth from the English press a long drawn wail of horror, as well as edifying expressions of unctuous rectitude. The outcome of the Chicago scandals, however, has done this much good in this country. Investigations have been more stringently taken into the conditions prevailing in the meat packing factories of Great Britain and the results have shown that there is room for great improvement. It has been asserted recently, on good authority, that meat condemned and sold for the ostensible purpose of being made into manure has found its way into factories for potted meat. If the Chicago revelations should be the means of bringing about radical reforms in the meat packing industries of America and Great Britain, they will have been after all a blessing in disguise.

The British government is taking steps in regard to making widespread inquiries into the subject of infantile mortality, a matter which is exciting much concern among all classes of the British community. In Blackburn, Lancashire, some local philanthropists have decided to open a restaurant, where for twelve months, two good meals a day will be supplied to poor women who are nursing babies.

Sir Victor Horsley delivered an eloquent address a few days ago upon the overstocking of the medical profession. For some little time now, complaints from medical men in regard to the falling off in their earnings have been frequent and bitter. Sir Victor Horsley's panacea for this unfortunate state of affairs seems to be organization among the members of the profession, to join the British Medical Association, and for doctors to make themselves felt as a force in politics.

The abuse of hospitals is once more a fruitful subject for discussion in the journals of this country. Hospital abuse is more greatly rife here than in America, owing to the different manner in which hospitals are controlled in the two countries. At a meeting of a branch of the British Medical Association recently, at which some very prominent members of the British medical profession were present, it was moved that it is desirable that concerted action should be taken to check the large and gratuitous medical attendance granted to many sections of the community, inasmuch as it tends to diminish the thrift and self-respect of the public, lessens the esteem in which medical science is held, and has a detrimental effect upon the position of many members of the medical profession. During the past two years, charity in general and hospital charity in particular has greatly benefited by the wills of some immensely rich men. Alfred Beit, the South African millionaire and one of the richest men in the world, left a goodly portion of his enormous wealth to hospitals. The fortune of Samuel Lewis, by the death of his widow, has been set free to be distributed as he willed. A sum of nearly $10,000,000 comes to London hospitals. Mr. Herring, who died a few weeks ago, left nearly $5,000,000 to London hospitals. Mr. Beit and Mr. Lewis were Jews, one having been a speculator and the other a money lender.

A report of exceptional interest was published a short time ago. This was the report of the inspector under the Inebriates Act for England. The document widely differs from the usual run of such papers. It does not only set down bare facts, but touches the human side of the subject.

The main argument of the report is that British methods of dealing with the habitual inebriate are founded upon a wrong conception of the conditions. Dr. Brathwaite, the inspector, thinks that at least 62 per cent. of these habitual drunkards are really diseased and more or less irresponsible for their actions. He therefore thinks that punishment in such cases does far more harm than good. The report affords convincing evidence that drunkenness among women is upon the increase in Great Britain. In the reformatories for drunkards in England, there are 1608 women and 265 men. The report shows conclusively that women in England are not only more generally susceptible to alcoholic temptation than men, but that they are susceptible at an earlier age.

Mr. Edmund Owen, vice-president of the Royal College of Surgeons of England, in delivering the Bradshaw lecture on Dec. 13, took as his subject that of cancer treatment. The lecturer made some very hard hits at the so-called cancer cures which are continually cropping up. He gave as his opinion that the only cure for cancer as yet known was operation. By the way in regard to trypsin and cancer, concerning which much has been heard of late, both in America and England, there would appear to be the ground work for a very pretty quarrel. Dr. Morton's account of his partial success with trypsin in treatment of cancer, published in *Medical Record,* Dec. 8th, has stirred Dr. Beard, of Edinburgh, the discoverer of the use of trypsin in this direction, to make renewed efforts to advertise the ferment in this country. The medical profession here has generally shown itself sceptical as to the merits of trypsin as a cure for cancer, and Dr. Beard asserts that the *Lancet* has openly snubbed him. One result of this difference of opinion will be that trypsin will be given a thorough trial, and the question of its efficacy will be definitely settled.

COMMUNICATIONS.

To the Editor:

Dear Sir—Pasteur wrote: *It is within the power of man to rid himself of every parasitic disease.*

The time has now arrived in the judgment of many persons, for establishing a National Department of Health at Washington to wage warfare against the preventable diseases of mankind. In a similar way, the United States Department of Agriculture has expended during the last ten years fifty millions of dollars in a splendid fight against the diseases of plants and animals.

The fearful wastes of death and sickness and the dreadful havoc wrought can never be described. The fiercest battles ever fought left no such bloody trails, even when the mailed hand of war smote cruelest and harshest, as the crimson boulevards—*ten-death chariots-wide*—traced by the passing finger touches of pneumonia or consumption wastes within a week's end span. Along these ghastly boulevards will be strewn, before twelve months are gone, more blasted hopes and broken hearts than all the countless grinning skulls slain in fair fights and whitening battlefields since time began.

Could the 750,000 persons in the United States marked for death during the next twelve months from preventable causes voice in a *threniad* verdict *their* conviction, in a last solemn *morituri salutamus,* who can doubt what would be their admonition: *that good health is more precious than rubies, and a long life well lived fairer than beaten gold.* Who can doubt, if these measures were before the nation, how *they* would cast *their* verdicts? As the slaves chained to the chairs of the conquerors in the triumphs that are gone, so the passing hours silently remind us: "And we too are mortal."

In the paper read before the American Association for the Advancement of Science, partial data have been assembled concerning the magnitude of these wastes and the possibilities of prevention. *The great need is for the awakening of the nation* to the splendid remedies which the great medical and sanitary experts could devise, if properly organized for the task.

Could only the busy editors of the nation, who guide all movements of humanity and progress, co-operate in bringing this fearful destruction vividly before their readers, no greater good could be accomplished; and in the years to come, many a man now marked for an early death, when celebrating his ninetieth birthday among his children, would thank his stars for a progressive press.

With best wishes and thanking you in advance for whatever co-operation may be rendered in this agitation for inaugurating a National Department of Health, which must go on until the purposes are allowed and the means provided, believe me, Truly yours,

J. Pease Norton.

HEROINOMANIA.

By Cecil Kent Austin, M.D.,*
Paris, France.

It was thought at one time that the morphin habit could be cured by the substitution of cocain; but the only result of this experiment was to create a new habit, that of morphin-cocain, and for a while these were the only cases obtained, a pure case of morphin habit having become a rarity. By the time that this mistake was fully realized this one, probably worse, arose; for several years, now, physicians have tried to replace morphin by heroin, and at the present day we see nearly as many cases of the heroin habit as of the morphin habit.

There was a semblance of an idea in trying cocain, as the two substances were chemically different; though in fact all that was done was to substitute one poison for another. But with heroin this is not so, as it is a product of the same chemical series—almost identical, to tell the truth. And in using it even the method of administration is the same, whereas it is desirable that this should be different, in applying the substituted method to the breaking up of a drug-habit.

Enough cases of heroinomania have now been observed to make it possible to denounce the danger this remedy presents, as well as the mistaken ideas people have of it and of the intoxication it produces.

It is a gross error to say that heroin is not more toxic than codein; it is certainly more toxic than morphin at equal doses, and nothing is more striking with heroin-habit patients than their cyanosis, their deficient hematosis, and their very great prostration.

The best proof of this greater toxicity is the shorter time that patients can stand it. They can take large doses of morphin for years, but with heroin they last a far briefer period, even with smaller doses.

People fancy that they gain in the fact that at the start half the amount of heroin only is required as of morphin to maintain their equilibrium. But as less pleasure is derived from heroin than from morphin, they soon increase their doses to as much or more as they were taking of morphin, by which time they have practically doubled their intoxication. For this reason it is common to see heroin patients taking very large amounts of the drug.

Heroin was first proposed as a substitute in mild cases of the morphin habit; but neither in mild nor severe ones should it ever be used. Not only are such cases not cured thereby, but the patients are exposed to an intoxication more serious than their former one, since the ruin of the system is much more rapid and complete than with morphin.

Heroin seems to have a peculiar action on the brain. With morphin, people often appear for a long time to be in possession of brilliant intellectual qualities; but the effect of heroin is just the contrary, producing mental torpor.

Morphin acts specially on the brain, liver and glands, but not on the circulation and respiration; whereas these are just the functions effected by heroin, particularly the latter. Hematosis is very imperfect, and it is not uncommon to see suffocating attacks of bulbar origin with the heroin habit, even at the beginning. Physiologically heroin seems to act on the medulla oblongata, and morphin on the brain, and for this reason the former has a more serious effect on the vital functions of the body.

The convalescence after the heroin habit is slower, and is accompanied by a much inferior and less satisfactory reaction than in the case of morphin.

The suppression of the drug in a case of heroin habit is not only as difficult as with morphin, but it is far more dangerous. With the rapid (not sudden) method of stopping the use of morphin, if there is cardiac syncope, or alarming weakness, a dose of morphin, the tenth part of the final dose used, will suffice to pick up the patient. With heroin this is not true; even a good dose is not enough, and we have to add ether, caffein, etc., which even then may prove insufficient.

In stopping morphin, attacks of syncope are due to heart fatigue, and can be avoided; but with heroin there is no means of avoiding them, and they are a real danger, being respiratory (not cardiac) and, what is more grave, of bulbar origin. Without any warning the patient begins to breathe with difficulty, cyanosis sets in, breathing stops and the pulse become thready; a dose of heroin fails to produce the stimulation one gets from morphin in the morphin habit, and if the patient cannot be revived by other means he will die.

The only way to get around this danger, when one atempts to cure the heroin habit, is to transfer it first back to a morphin habit. When one has made a morphomaniac again out of his patient who had gone over to the heroin habit. he can proceed to cure him of his morphin in the usual way, without being exposed to any such disasters as with the heroin.

Heroin has no superiority to morphin, and many points of inferiority, and could probably be struck out of the pharmacopœia without loss.

And now there is another habit on the horizon—the dionin habit. Cases have already been published, and we shall doubtless have trouble with this drug, too, in the near future.

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*International Clinics, vol. 2, pp. 120-122.

HEREDITY, PORTALS OF ENTRY OF INFECTION AND IMMUNITY IN TUBERCULOSIS.

M. P. Ravenel, M.D., Assistant Director Henry Phipps Institute for the Study of Tuberculosis, Philadelphia, discussed Heredity, Portals of Entry of Infection and Immunity in Tuberculosis, at the Sanitary Congress held at Syracuse, Oct. 24, 1906. A widespread belief in the transmission of the disease through heredity had been a most pernicious doctrine, he said. Medical literature records only 20 authenticated cases. Personally he does not believe in an inherited susceptibility. We should concentrate our attention less on the soil than on the excretions that are the proved cause of infection. Dr. Ravenel does not believe that the respiratory tract is the main portal of entry, attaching far more importance to the intestinal canal. Experiments made to establish the former have been defective because the esophagus was not stopped up; on the other hand, experiments show that it is easy to infect animals by ingestion. The channel is through the thoracic duct and right heart to the lungs, where the bacilli are strained out in the capillaries where the primary infection takes place. A distant infection results through the amoeboid motion of a bacilli-bearing leucocyte through the lymphatic system. Immunity is probably gained by the formation of antibodies in slight, unrecognized onsets of the disease. The greatest amount of infection occurs in the small intestine. Tonsils are also frequently affected, then the bacilli pass to the lungs through the lymphatics. The stomach seems immune. The bacilli can pass through the intestinal wall without leaving any traces; they probably pass into the chyliferous vessels. Skin inoculation is possible; the hair and eye are also avenues of infection. Immunity is an ability to resist all onslaughts of disease. Postmortem examinations point to widespread infection; in most cases the dose of the bacilli has been recovered from and immunity has been developed. Therefore tuberculosis is curable. Experiments have been made to bring about artificial immunity. An attempt is being made to immunize cows so that their milk will contain antibodies. It is quite possible to vaccinate an animal against tuberculosis. The great lesson to learn is that we must insist on the laws of hygiene; the sputum and other discharges are the cause of infection, therefore destroy them.

CONSTITUTIONAL LOW ARTERIAL TENSION IN CHILDREN.

L. F. Bishop, New York *Journal A. M. A.*, calls attention to a condition observed in children, of constitutional low arterial tension, probably of nervous origin, though the symptoms are circulatory. The pulse in these cases would suggest in others the prostration of acute or chronic disease, but the condition is habitual, there are no heart lesions or cardiac symptoms, and the kidneys act normally. The defect seems to be in a lack of the normal back pressure in the peripheral circulation, the blood circulates too easily. To differentiate such a case from cardiac weakness one need only make a demand on the circulation by active exercise or observe the response in the case of acute disease. Such children suffer much discomfort from lack of circulation, as by cold feet, depression, constipation and skin disorders. They are also subject to catarrhal disorders, but they thrive on active exercise and on every sort of mental and physical exercise that stimulates the circulation. Very hot baths of short duration benefit them, but they do not respond well to cold baths. Though the class is not a large one the cases are sufficiently numerous to be met by every pediatrist. The importance of recognizing the condition lies in placing it where it belongs, and not seeing in it the accompaniment of a supposed anemia or cardiac disease or a sequel of some local disorder. It is a condition that must be met by a proper regimen, and is one that has a tendency to improve or even to disappear after adolescence. Its proper recognition will relieve anxiety on the part of the family physician, it is not a true failure of the circulatory apparatus resulting in an inability to respond to the demands for pressure, nor is it due to the exhaustion from prolonged high arterial tension. This latter, secondary low arterial tension is rare in children. Bishop recommends a careful study of this class of cases to students of the circulation.

ANTI-PURITIC REMEDIES.

Of these carbolic acid is perhaps one of the most serviceable; it is best to use it alone well diluted with water, or in the form of a dilute glycerine of carbolic acid. The anti-puritic effects of carbolic acid will be obtained even when the acid is diluted so much as 1 in 100.—Dr. Jas. Galloway.

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by FRANKLIN W. BARROWS, M.D.

THE GAZETTE DIRECTORY.

OUR Directory for nurses, which made its first appearance last month, is being complimented by our readers, just as we expected. As a directory of the most important nursing organizations in the United States it is the completest and most exact to be found in print anywhere. Such an undertaking would be quite impossible without the coöperation of the many correspondents from whose letters the data of the Directory are compiled. To all these secretaries and other officers who have responded courteously and promptly to our letters of inquiry we acknowledge our obligation and extend our thanks.

We wish that we could pronounce this work quite complete, but our readers will discover a few deficiencies for which we can hardly hold ourselves responsible. If any one is to apoligize for these defects it should be those who, having received our polite request for information, have been so busy or so indifferent as to neglect to give it.

It is commonly understood that a letter making any reasonable inquiry and conveying postage for the reply, deserves courteous and prompt attention. However, there are many causes—sickness, absence from home, etc.—that may be responsible for this seeming neglect.

Our Directory appears again this month, page xxxii, and we hope, as rapidly as possible, to fill in all the missing data, and to this end we ask the help of all our readers, specially those who are in positions to give it.

POOR NURSES FOR POOR PEOPLE.

THE problem of supplying the poorer classes of our people with competent nurses is likely to puzzle us for some time to come; but this is no reason, certainly, why the nurses now in the field should leave to their successors of a future generation the whole responsibility of working out the puzzle. If it is a virtue for us to bear one another's burdens it is no less commendable for us to lessen, in so far as we are able, the load that we shall inevitably pass along, some day, to the workers who are crowding up behind us. Whoever you may be, nurse, physician, or what not, if you can contribute one single idea that will advance the mutual interests of a needy patient and an unemployed nurse you should lose no time in doing so.

We are glad to call attention to Miss Poole's article, in this number of the GAZETTE, on "The Sliding Scale." We have yet to see a better solution of this problem than that which Miss Poole contributed to this journal in November, 1906. We are not advocating it, however, as a perfect plan, neither do we expect everybody to agree with the sentiments expressed on the "sliding scale;" all that we ask of the indulgent reader is to read carefully and to meet argument with argument and to advance the solution one step further, if possible, to the end that some one may *act*—that idle nurses may get work and worthy sufferers may get comfort.

However you may disagree with Miss Poole, you must admit the soundness of this principle which she states so positively: "No scheme for securing skilled care for the wage earners which is not to the advantage of the nurse will prove efficient." Does it not appear equally true to you that any efficient scheme for securing skilled care for the wage earners will prove to be to the advantage of the nurse? Then let us devise a scheme.

If we are not mistaken, the conditions that now obtain among our poor classes are these: paupers and the hopelessly poor can enjoy the services of the best of nurses, in the hospitals or at their homes, often without the formality of asking for them. The man of small income who strives to pay his way and to live without the direct assistance of charity or the poormaster will be obliged to put up with the poorest kind of paid nurse, if indeed he has any at all, for his family in their time of need.

Now a poor nurse may be better than none at all, but it often happens that she is infinitely worse than none. A doctor of our acquaintance is learning this lesson just now at the cost of much anxiety on his own part and that of the patient. For financial reasons his patient engaged an "experienced" nurse to attend her during her confinement and puerperium. The nurse is said to be very handy about the house, quite good company, and, as a crowning accomplishment, she "tends the baby just like it was her own." In the steadfast pursuance of this latter duty she has poured considerable quantities of a well advertised baby medicine down the infant's throat. They had to send for the doctor one day to wake the baby up. The nurse submitted meekly when the doctor ordered a halt in the sedative campaign, but she admitted that she felt injured a few days after at his absolute refusal to allow the baby's eyes to be cleansed with the mother's breast milk. It pained the nurse to realize that the doctor would not listen to reason. As for the mother, this fond creature gave her a vaginal douche every once in a while, using a rectal tip that had not been cleaned since it had served its own proper function. The result is not hard to guess—a very much infected woman, getting worse every day, a baby learning the bottle habit, a doctor dismayed and a "nurse" who never had such luck in all her life before—and the end is not yet.

Poor people, poor nurse, and a poor mess of it all through; and is there nothing that *we* can do about such affairs?

A DAY WITH THE VISITING NURSE.

WHILE reading Miss Fielding's article on another page you may enjoy the privilege of an imaginary journey with her as she goes about her ordinary day's work. And what an excellent work it is. Her story is published not alone for its intrinsic interest to nurses, but also for the inspiration of some communities where the district nurse has not yet begun her beneficent labors. The influence of the nurse ought to be multiplied thousands of times by the extension of this charity to every city and town in the land. The community that puts this work on a firm basis will soon learn that it is not simply a charity but an economic necessity. As for the nurse, on whom such responsibilities devolve, though she may not have the inspiration of the Woburn hills continually before her eyes, she will find in dusty lanes and cheerless homes a welcome and a recompense such as are too often denied to her sister nurses who cater to the whims of the society folk.

We need more visiting nurses, and, of course, we need every year more nurses who have the stuff in them to develop into this work.

BEWARE OF INFLUENZA.

PRESIDENT ELIOT, of Harvard University, in an address celebrating the two-hundredth anniversary of the birth of Benjamin Franklin, shows that this distinguished philosopher recognized the infectiousness of "colds." He says, as reported in the *Journal of the American Medical Association:* "The sagacity of Franklin's scientific inquiries is well established by his notes on colds and their causes. He maintains that influenzas, usually classed as colds, do not arise, as a rule, from either cold or dampness. He points out that savages and sailors, who are often wet, do not catch cold, and that the disease called a cold is not taken by swimming. He maintained that people who live in the forest, in open barns or with open windows, do not catch cold, and that the disease called a cold is generally caused by impure air, lack of exercise, or overeating. He came to the conclusion that influenza and colds are contagious—a doctrine which, a century and a half later, was proved, through the advance of bacteriologic science, to be sound. The following sentence exhibits remarkable insight, considering the state of medical art at that time: 'I have long been satisfied from observation, that besides the general colds now termed influenza (which may possibly spread by contagion as well as by a particular quality of air), people often catch cold from one another when shut up together in close rooms and coaches, and when sitting near and conversing so as to breathe each other's transpirations; the disorder being in a certain state.' In the light of present knowledge what a cautious and exact statement!"

We realize that Franklin was very far in advance of his times when we consider how slowly the people of to-day are accepting the modern demonstrations of the nature of influenza, in spite of the activity of a few intelligent physicians and laymen. The Health Department of Chicago has waged a persistent campaign of education, with what success may be inferred from the following comments published in Dr. Whalen's *Weekly Bulletin:* "It is with the laity that the department must continue its labors. These still fail to realize the fact that influenza is a highly contagious disorder and one of the most insidious of the acute specific diseases. When smallpox breaks out in a community every possible precaution is taken to prevent its spread, but in the case of influenza little or nothing is done by the patient or his family. It is the reckless exposure of the infected which makes the disease so difficult to eradicate. Everyone is exposed, more or less, to the danger of being invaded by the bacillus, and it is difficult to devise preventive measures on which reliance can be placed. Much, however, may be done by attention to these few simple rules:

"When a person is ill with influenza, it is better not to visit him or, if a visit is imperative, it is advisable to avoid unnecessary contact. After the interview the hands should be thoroughly washed in an antiseptic solution and the outer garments should be disinfected by exposure to fresh air and the direct rays of the sun.

"The condition of the general health should be maintained by plenty of outdoor exercise, by good food and the avoidance of indulgence in alcohol. At the onset of the initial symptoms the patient should remain in bed and should at once obtain medical advice. No reliance should be placed upon popular remedies, for the complications are so grave that the best possible treatment is required."

How easily is one inspired with momentary enthusiasm by some noble thought, or the idea of performing some magnanimous deed! But this excitement is followed by a state of nervous exhaustion, or, to state the case more simply and honestly by *laziness.* There wake up all sorts of little likes and dislikes which were hushed at first, and at last, although the work may, as we had pictured it to ourselves, be indeed a noble one, yet, all the same we find that we can get on without it; and besides, who would thank us for our pains if we were to trouble about it? Here we see that moral weakness which so lightly dons the cloak of heroism, but has not the enduring strength necessary for holding fast the ideals of youth, and then coolly, as though it had not long ago weighed the whole matter, rejects as an idle dream that which it was too lazy to convert from dream to reality.—LOTZE.

DISTRICT NURSING IN WOBURN, MASS.

By Annie M. Fielding,
District Nurse.

It is just two years since the Woburn District Nurse began work. About fourteen hundred calls were made the first year as against thirteen hundred odd this year past. The field is a large one, including the city proper and all its outlying districts, East, North, West Side and Highlands. Electric cars go through the central part of each section, but a great deal of the ground must be travelled on foot which, in fine weather, is very enjoyable, the surrounding country being hilly, a delight to the eye in all directions.

The work was started by the Women's Club, but afterwards was turned over to an Association, with president and board of directors, the heads of various committees. Any resident may become a member and have a vote in its business meetings by paying an annual fee of one dollar.

The nurse is paid a regular salary, all money received from patients going to the treasury to help defray running expenses. Patients are expected to pay the sum of fifty cents for a visit, if they are able. If their means do not warrant this, whatever they can afford to pay is received, and very many cases are taken as charity, so all classes may have the benefit of trained service.

The nurse is furnished with a bag of necessary utensils and supplies, and has access to the supply-room where gauze, absorbent cotton, old linen, and various made-up dressings and bandages are kept.

She is called only through a regular physician, and is on duty between the hours of 8 A.M. and 6 P.M. Occasional emergency evening and night calls are responded to. When possible she gets an afternoon once a week and all of Sunday that is practicable, doing only what regular work is necessary and receiving no new calls on that day. A fresh confinement case or a serious surgical dressing always calls for a Sunday visit.

The work varies very much in kind and amount, as well as location. Sometimes six or eight patients are on the list at one time, all living within a short distance of each other. At other times patients are widely scattered in every direction of the compass. The past month has been a very busy one, owing partly to that fact, one hundred and sixty calls being made.

This is a sample day:

Leave the house 8 A.M. The first patient is reached after a walk of ten or twelve minutes. She is in bed, alone in the house, her husband having gone to work. A douche is to be given. A neighbor in the other side of the house furnishes hot water. Out of the back door you go to the neighbor's back door and return with a kettle full. Of course this is too hot, so you hunt around for something to pour it into to dilute it to the proper temperature. A stew-pan is found and a glass pitcher, and with these articles to work with you produce your solution tablets and douche-bag and prepare the douche. Upstairs with full bag in one hand and pitcher and thermometer in the other. You tie the bag to the bedpost and make your patient ready. There is, of course, no douche pan, not even a washbowl, nothing but a bread pan, which for obvious reasons you decline to use, and finally take the chamber, putting pillows, covered with newspapers under the patient's back to bring her to the proper level. While the water is running off you talk with the patient, advising her concerning her diet and care of herself, and after refilling your now nearly empty bag from the pitcher you trip downstairs to refill it. Then another trip downstairs to empty the douche water and sterilize your douche point, and with a cheerful good-by to your patient you are off to the next.

The next is reached after nearly ten minutes' walk along a country road, up a winding wooded hill, circling back towards the town again. Here is a new baby—a very welcome little eight-pound girl—happy father and happy mother. The house is very small, with no accommodations for a regular nurse, so that the district nurse was obtained. The grandmother is doing the housework and is not able to care for the daughter, so the nurse finds plenty to do. The patient's pulse and temperature are taken first. Then she is bathed, bed and personal linen changed, hair combed, breasts bandaged and perineum dressed. Then baby has her turn—is washed and dressed all clean and fresh and has her hair combed and brushed, too, for she has long hair for a baby—a good baby, who loves her bath. Then she goes to the mother to be nursed, and after tidying up after her work the nurse takes her leave.

Another walk of nearly ten minutes brings you to the next patient, a chronic sufferer, where a douche and cheerful encouraging words are in order. Everything is ready for you to work with here, and no time is wasted in makeshifts, and you take up your walk again till you come to the car-line. No car is in sight, so you decide to keep on walking rather than wait, for it is getting past noontime. After climbing a high bank, you ascend the steps of a very high house and go upstairs two flights. Here is another happy young mother. Her baby is a seven-months' infant, but he has been wrapped in cotton and oiled every day since he was born, and he thrives and grows so lustily that very soon he will be promoted to real baby clothes. There is a grandmother here, too, who takes good care of her patients, and as the baby is a week old you do not spend a very long time here, so going to the foot of the street you take a car home to dinner.

At quarter-past two you take a car for East Woburn, and ride for about a quarter of an hour. Here are two patients ill with typhoid fever—a mother and a son. The mother is in the room entered from the street, and the boy in the bedroom opening out of it. On taking their temperatures you find that each needs a cold bath, which you proceed to give—after going to the kitchen for water and telling the young married daughter that you have arrived, and making enquiries about the patient's welfare since your visit the day before. She gives you clean clothes and you leave your patients much refreshed. It seems a very inadequate way to nurse typhoids, but is the best that can be done under the circumstances. The family are too poor to afford a nurse and have tried to follow the doctor's instructions to the best of their understanding, which is none too intelligent. One visit a day from the nurse and one from the doctor has to make up deficiencies. At least they appreciate the value of having clean bedclothes, for they wash every day and always have them ready.

You take the car back homewards and leave it a short distance from town. A walk of a few minutes brings you to the house of a woman who has been very ill, but has so far recovered that you expect to make your last visit and, sure enough, she is dressed and downstairs lying on the lounge in the front room. She looks very frail and delicate, and you take her temperature and pulse and caution her to be very careful in getting about and charge her to eat nourishing food. Two of her small children come home from school and inform you that they will walk a piece with you as you go. So they show you a short cut into the next street and chatter away to you as you set out for the last visit of the day. This is a little motherless girl who was hit on the back of the head with a stone three weeks previous. With a dressing every day and care from the older sister, who is the house-mother, it has been healing nicely; after putting on a fresh dressing you tell the little girl that next week she may have her bandage off and go to school if all goes well. She is very much pleased, but does not say anything, for she is only six years old and very shy.

There is a little sequel to this story. Sunday night a ring came to the door. There stood two boys. The older one shouts out: "Say, is the nurse here?" "Yes," I replied. "Well, the little girl at No. — Street fell down and her scab came off." I asked him the particulars and learned that the sister had followed to the letter my instructions for such an emergency and told him that I would see her the next day. When I went I found that little damage had been done and she had been to school.

The work is very interesting. It leads into all kinds of homes and places that serve for homes. Some of it is sad, some amusing. Nearly everywhere a hearty welcome is given the nurse, and if her instructions are not always followed they are at least listened to politely. It is in the homes of the working classes that the best chance for teaching and helping comes. It is appalling to think what little and sometimes what worse than no care confinement patients get at the hands of so-called experienced nurses. Superstitions are rife among the older of such women, and the unsuspecting patient submits partly because she has never known any differently, and partly because she thinks that after so many years' experience they must surely know what is best and right to do.

Frequently I find that the baby is dosed with gin to keep it quiet, or to prevent colic; patients given gin to keep them from getting chills—all this without the doctor's knowledge—windows kept fastened for fear the patient and baby will take cold; cold water refused for the same reason, and, for some unaccountable reason, many think it not safe to comb the patient's hair for nine days. And what a time the poor patient has when she tries to do it herself!

Usually I find that the care of the patient is put second to that of the house and cooking for the husband. If the mother is comfortable and has something to eat and the baby does not fuss, that is considered to be sufficient. It is hard to expect much else from one who has never been taught the importance of obstetrical nursing in all its details. Usually the whole care of the whole house falls on this nurse, with the exception that the mother keeps the pocketbook under her pillow and orders the provisions and pays the bills. There are doubtless several other small children under foot to be fed and looked out for, and it takes a very good natured woman to fill such a position acceptably. But the mother's convalescence is never all it might or should be in such a case, and some of the doctors find it very useful to send the district nurse to such a family to look after the personal needs of the patient. Quite often the nurse is glad to let the visiting nurse wash and dress the baby too, which is very satisfactory as long as the umbilicus needs care.

Sometimes I meet women who are glad to get information and to ask for instructions in taking care of the patient, and it is very good to know that when your back is turned the work will be continued in the right way.

I might go on and cite many more experiences, but I am sure this is enough for the present. We hope the work will grow, so that there will be enough to keep two nurses busy all the time.

There is no branch of nursing that so nearly meets the demands of the middle classes, who have not the means to employ a regular trained nurse at twenty-one dollars a week, nor the room to accommodate one if they had the means. There is room for great development along this line.

18 Court St.

THE SEA NURSE.

A SEA career is opening for several hundreds of nurses. Two graduate nurses from a New York hospital have been placed on passenger steamships of the Hamburg-American line, says the *New Orleans Medical and Surgical Journal*, for December, 1906, and more will be needed. Other first-class steamboat lines will, no doubt, follow this example, and the trained nurse will become a recognized necessity of the first-class steamship, as the physician has. The opportunities of the trained nurse are increasing very rapidly.—*New York Medical Journal.*

THE GYNECOLOGICAL SURGEON'S RELATION TO HIS PATIENT: FROM A TRAINED NURSE'S STANDPOINT.

By Mary H. Tufts.

Farmington, Maine.

My own experience as a surgical nurse, largely among gynecological patients, leads me to believe that the average surgeon is a man of honor, skill, considerateness and sympathy; and that he is consecrated to the duties of his profession as he comprehends them.

All honor to him then, in his self-sacrificing service and patient, earnest research.

Believing that through this same considerateness I may be heard and not misunderstood, I present this paper in the form of a plea for the more liberal instruction and education of the surgical-gynecological patient, along the lines of hygiene and physiology. It would be both unseemly and uncalled for, for me to relate the particular circumstances occurring in the course of my daily work as nurse, that have prompted me to mention some of the problems of vital importance to this class of patients. Over and over again, by the young and unmarried woman or the middle-aged or married, I am asked to advise and answer questions concerning the physical life and relations, about which the nurse may not advise or instruct, not having the requisite knowledge.

As a woman, a nurse and a student of psychology and physiology, the nurse often may, and should advise the patient regarding such matters as she may have a thorough knowledge of. But there still remains, as I have said, a good deal of information sought that should be imparted to the patient by her physician.

The gynecological patient is often emotional, apprehensive, morbid and nervously weak. Perchance these conditions may explain in a measure the vagaries of thought so often expressed by some of the truly crude and startling questions that are propounded to the nurse, or, less often, to the physician. And I am frequently shocked and troubled also by the knowledge of the many traditional fallacies regarding the economy of the genitalia that still exist in the minds of many women.

I believe that disease of the generative organs is more frequently caused by ignorance of the anatomy and physiology of that part of the economy than by any wilful violation of the laws of health. If any medical knowledge is worthy of popular acceptance as a guide to right living it is that pertaining to the physiology of sexual life. On no other subjects do women seem so truly ignorant, and no kind of ignorance tends to greater misfortune or more unhappiness.

An instinctive modesty prevents many women from seeking advice upon delicate subjects; but there also seems to be a sort of conventional illiberality deemed proper by many women, which prevents them from asking information of their physicians, who are the rightful guardians of their physical welfare, and competent and legitimate instructors.

Is there also a suggestion of this same illiberality on the physician's part, preventing him from teaching and instructing along these lines as fully as he ought, and restricting to the minimum his answers to questions of this kind?

It is true that the physician in his relation as instructor of the patient must wisely adapt his teaching to the motive probably prompting the seeking of such knowledge, whether it be one of morbid curiosity or the earnest purpose of gaining knowledge for physical improvement and reform. There can be no question but that this is difficult.

To present such subjects delicately and modestly, but with unquestionable plainness and straightforwardness, requires the greatest amount of tact and discretion. But however difficult and perhaps repugnant it may be to him, is not the judicious instruction of the morbidly curious, the ignorant, or the immoral, even more necessary than that of the woman of well-balanced mentality and moral tone?

I am grateful for the possibility of cures and relief for suffering women that come through the skill of the gynecological surgeon. To the understanding mind, the "miracles of the knife" stand for painstaking and skillful research, unselfish use of brilliant mental powers, and much actual strenuous labor, care and anxiety on the surgeon's part. But if the patient goes out from under the surgeon's care, still ignorant of the perhaps preventable causes of her ill-health, does she not stand liable to a repetition of disease and suffering perchance even more serious than those which she formerly endured?

So then, the surgeon's duty to his patient does not end when he has done his most brilliant operation for her and has gotten her convalescent from it. If he comprehends that her ill-health has been caused by any willful physical intemperance or excess or by ignorance of physical or moral laws, let his humanity prompt him to guide her, so far as possible, by good advice and teaching, into future correct living.

The natural delicacy and modesty of the average woman prevents the expression either of her satisfaction at the knowledge of a perfect integrity of the functions of her sex, or of her grief and regret because of physical incapacity. However, the psychopathology of the sexual life cannot be ignored. The natural instincts may be either repressed or perverted but they still exist; and a woman's physical and moral safety depends not upon her ignorance of her physical functions and capacity but upon the correct comprehension of their use and abuse.

No question regarding physical function or capacity should be beneath the notice and careful consideration of the surgeon. His patient may be both ignorant and uncouth, her queries couched in crude or almost incomprehensible expressions, but she deserves a truthful and conscientious enlightenment. The physician who would treat these subjects with ridicule or levity places himself beneath the dignity of his calling.

I cannot wonder at the feeling of disgust and repulsion often felt by the surgeon when confronted, as he frequently is, by that abnormal type of woman who seeks release from the possibilities of maternity by an ovariotomy or other unsexing operation. Indeed, the number of women who would be glad to be deprived of the maternal function is large; and among this number we may fathom many motives. We may divide these patients into several classes, ranging from the purely degraded woman who seeks to be "unsexed" that she may follow the immoral life with more safety, to the diseased and suffering woman of pure life upon whom the trials of maternity seem to rest as an unbearable burden. May God grant the physician all wisdom with which to meet these cases.

The vicious woman merits not only his pity, but his reproach, together with such moral instruction as is in his province to give. The woman who through disease and suffering has been brought to desire this unnatural condition, deserves great compassion, conscientious hygienic instruction and medical treatment. On the other hand, we have the class of patients for whom the "unsexing" operations are necessary and desirable because of disease and to whom such operations mean much grief and mental depression, because of maternal or other incapacity. It may help to dispel the unhappiness of such patients if they are taught that sterility is a natural consequence of such diseases as make these operations a necessity. I have known of a score of suffering women who have refused operation upon hopelessly diseased and sterile reproductive organs because of the vain hope of maternity, which fallacy the physician had forgotten or neglected to dispel.

Many doubts, fears and queries possess the minds of most women who must undergo, or have had to undergo major gynecological operations. These troubles and questions they often unhesitatingly present for the nurse's consideration; but they often refuse to talk unreservedly with the surgeon concerning them or even to let the nurse do so on their behalf. This attitude of the patient toward her physician should be discouraged by the nurse, who should endeavor to establish in the patient's mind a feeling of perfect confidence and respect for the physician, especially as a quiet and fearless condition of mind makes so strongly for a favorable convalescence.

A prominent gynecologist of Boston, now deceased, made it a practice whenever possible to say to his patients upon whom he was to operate: "Now perhaps there are some questions you would like to ask me about yourself or the operation; if so, don't hesitate to ask, for I am very glad to help you in any way I can." He possessed the happy ability to cheer and encourage, and yet speak the truth. He did not hesitate to instruct the patient upon the most delicate subjects, if her physical and moral welfare seemed to demand it; and it was his pleasure not only to bring the patient to a perfect convalescence but to teach her, as far as possible, how to keep herself well after leaving his immediate care and oversight. His patients might well have trusted and respected him; and they did, for his service to suffering women was not only one of skill and compassion but also that of a teacher, characterized by a comprehension of the more delicate sensibilities of the patient, and by honor and manliness.

Judging from the nurse's standpoint, I believe that the surgical-gynecological patient has a right to know what operation the surgeon proposes to do for her relief or cure, and also to know exactly what operation he does eventually do. I know that many a woman leaves the care of her surgeon without knowing what kind of an operation has been performed upon her, thereby endangering the ultimate success of the operation by her very ignorance of the conditions that might be subject to morbid change through indiscretion on her part. The patient has a right to know whether her operation has incapacitated her in any way for wifehood or maternity, or whether it is likely to do so.

Confronted by the knowledge of the unhappiness in the life of many a married woman suffering from chronic pelvic disease, or from the nervous and other physical unbalancement following some of the grave gynecological operations, I am forced to question whether it be not to the advantage of the average woman suffering from such conditions, to remain unmarried or, at least, not to marry until her physical and mental condition permits of her assuming the marriage relations comfortably and agreeably. If the physician were permitted or even asked to advise the unmarried woman of poor physique, suffering from chronic congestion of the pelvic organs, regarding the advisability of marriage, what advice should he or would he give? Does he comprehend, as a woman can, the misery and unhappiness following many such marriages? Should the woman who has been incapacitated for maternity by surgical operation marry? If she contemplates marriage is it a moral duty that she tell her intended husband of her incapacity?

In the life of the nurse of extended experience there comes a deep insight into human nature and all its frailties. She is brought to realize fully that no amount of sentiment can raise the average person above the natural laws governing our physical life, and that the perverting of these laws is the cause of much apparent as well as much untold unhappiness.

The patient has a right to know, and ought to know whether her operation is likely to be followed by any marked temporary, functional or nervous derangement. I believe that the patient should be taught that "operations are not cures, but the means to cures." The gynecological patient who is unwisely led or permitted to believe that a surgical operation will at once relieve her of all physical discomforts and weaknesses, has been subjected to a great injustice. On being brought face to face with some of the inevitable sequelae of operations upon the generative organs, but for which she is unprepared, she often feels that she has been deceived; that her operation was, perhaps, not skilfully performed, and that she may never be well; and she is thereby subjected to a mental depression that is frequently of a most profound type.

The nurse of experience has perhaps a better opportunity than the surgeon has for observing the various functional and nervous disturbances following many of the gynecological operations. After a complete ovariotomy, resection of ovary, or hysterectomy, it is doubtful whether the physician can fully comprehend the patient's suffering from the effect of disordered or suppressed function and profound nervous disturbance. The patient who is told that she will for a time have these discomforts, but that with aid of proper hygienic precautions she will probably eventually be free from them, will usually bear much discomfort, or actual pain if necessary, with good courage and patience. However, and through no fault of the surgeon, a very necessary gynecological operation, especially an ovariotomy, may be followed by a peculiar, permanent physical depression. The unfortunate patient realizes full well the deficiency in the balance of her nervous and physical forces. The exhaustion peculiar to this condition has perhaps been well called "sexual neurasthenia." The patient suffering from this condition, may be feeling well and comfortable one hour, and the next, be weak, enervated and mentally depressed. What time and research may lend to the cure or palliation of this distressing condition, seems uncertain. But such unfortunate sufferers ought to claim a large share of the surgeon's sympathy and encouragement.

The convalescent operative patient needs judicious advice as to those duties which may or may not be assumed immediately after operation. She needs to be told what general hygienic rules she must observe in order to bring herself to that state of health that has been aimed at through the means of surgery. In the neglect of this post-operative instruction for the patient, ill-health, or a subsequent operation, may be the patient's misfortune and the surgeon's fault.

CLINICAL DIAGNOSIS FOR NURSES.

By Albert T. Lytle, M.D.,
Buffalo, N. Y.

(*Continued from page 47.*)

MOUTH.

Observation of the lips does not offer much that may be advantageously reported by the nurse. A condition of dryness of the lips, with more or less peeling, indicates obstruction of the nasal passages; swelling, without apparent lesion, coming and going quickly, remaining for very short periods of time, indicates a form of edema known as "angioneurotic edema;" its occurrence should be recorded. As individuals suffering from epilepsy sometimes have the attacks of "grand mal" at night only, and as they themselves may not be aware thereof, any evidence pointing to the occurrence of such attacks is always valuable history; and as in such "fits" the patient foams at the mouth, the subsequent discovery by the nurse of foam flecks on the lips is very valuable and should be drawn to the attention of the physician; at the same time the nurse, should not forget that malingerers often use a bit of soap in the mouth when "throwing a fit" in order to make the proper impression and to receive the proper attention. The lips suffer from vesicles, cracks and ulcers due to various causes; vesicles known as "herpes" occur very commonly as the ordinary "cold sore." In infants and small children cracks or fissures, called "rhagades," are sufficiently important to require recording, as they often indicate a condition of inherited syphilis. As people well advanced in years are prone to malignant disturbances, the appearance of an irregular ulcer, especially upon the lower lip, chronically enlarging, scabbing over, then becoming denuded, but never healing, is indicative of malignancy and should be reported to the physician at once.

The odor of the breath often offers aid in determining a diagnosis, especially so in cases of poisoning with criminal or suicidal intent. The characteristic odors of ether, chloroform, alcohol, opium, creosote and carbolic acid, are too well known to nurses to need more than mention, while that of hydrocyanic (prussic) acid is similar to crushed peach kernels or bitter almonds and phosphorous has a peculiar onion-like odor. Among other drug-odors might be mentioned asafetida and valerian, to show the value of observations of the breath. As odors are usually very volatile the nurse should invariably endeavor to obtain evidences of the administration of poisonous drugs by smelling the breath immediately upon coming in contact with any individual suspected of taking some drug liable to produce the symptoms present. The effect on the breath of "sordes" and other unclean conditions of the mouth is well known to nurses. Inflammatory conditions, like that due to mercurial gingivitis, produce extremely foul breath. Diseased conditions of both the lungs and the stomach influence the odor of the breath. In the effort on the part of the system to rid itself of noxious material in certain diseased states (for the breath contains excretory material volatile in nature and extremely poisonous in character) the breath is heavily laden and characteristic, as the "feverish" breath of fevers, the "urinous" breath of severe kidney disease, the sweet fruity apple-like breath in "diabetes," especially just preceding the onset of "diabetic coma," and the peculiar breath designated "cadaveric," so common in those so critically ill that death is imminent.

In considering the teeth, it is well to remember that the development of the first set of teeth begins very early in intra-uterine life, advances slowly, and ends at the close of the period of infancy; at birth the entire twenty deciduous teeth, ten in each jaw, are lying in embryo just beneath the smooth mucous membrane of the gums. As the various hardening salts are deposited in the embryo tooth it is forced upwards, causing atrophy of the over-lying tissues and pushing its way through the gum, giving rise to what is known as a "tooth eruption." Great variation occurs, in both the order and time of the appearance of the "baby teeth," some children being born with one or more teeth, while others reach the end of the second year without the eruption of any; late dentition, though, is indicative of some abnormality in the character of the food, or in the digestion and assimilation thereof, so that the tardy appearance of the teeth should be reported to the physician that he may carefully consider the child's food. Most observers divide the eruption of the temporary teeth into five dental periods, as seen by the following table from Rotch:

6 to 8 months...	2 middle lower incisors.
8 to 10 months..	4 upper incisors.
12 to 14 months..	2 lateral lower incisors [and 4 first molars.
18 to 20 months..	4 canines.
28 to 32 months..	4 second molars.

In other words at the end of the first year the average child has six teeth, at eighteenth months 12 teeth, at two years 16 teeth, and at two-and-a-half years 20 teeth.

The permanent teeth, or second dentition, 32 in number, follow the temporary teeth by replacing those of the first dentition and by adding new members. The following table, also taken from Rotch, indicates the average time and order of their appearance:

6 years........	4 first molars.
7 years........	4 middle incisors.
8 years........	4 lateral incisors.
9 years........	4 first bicuspids.
10 years........	4 second bicuspids.
11 years........	4 canines.
12 years........	4 second molars.
17 to 25 years..	4 third molars (wisdom teeth).

The first four teeth of this dentition are commonly known as the "six-year molars." The eruption of the second dentition ordinarily causes no symptomatology, yet occasionally the growth of the "wisdom teeth" is attended with pathological phenomena.

While there is afloat a pronounced difference of opinion among physicians regarding the influence of teething upon the physical welfare of the child, it is undoubtedly true that the ideas commonly held by mothers and nurses that dentition is the cause of many and various diseases among children is absolutely erroneous; yet, difficult dentition produces a great many physiological aberrations, as is evidenced by the fact that only while the tooth is erupting do some children present one or more of the following phenomena: hot and dry mouth, hypersecretion of saliva, excessive irritation of the gums, loss of appetite, prostration, disturbed sleep, restlessness, fretfulness, earache, slight febrile movement, constipation, diarrhea; in a neurotic child the irritation may be so intense as to cause indigestion and vomiting, or even slight convulsions. Should any of these symptoms just mentioned arise during the period of dentition, and should improper food, exposure or fatigue prove not to be the cause, then the doctor should be summoned to investigate the case, as these same symptoms may not only indicate difficult dentition but also some other pathological condition.

The primary or deciduous teeth fall out owing to the absorption of the roots during the eruption of the secondary or permanent teeth. Normally the permanent teeth should be hard, even, regular, smooth and the color of white ivory; they should remain as long as life lasts, but owing to several causes loosening and decay frequently set in, giving rise to more or less early permanent loss of teeth. In childhood early and rapid decay or a "soft" condition of the first or second teeth is indicative of malnutrition. In addition to the hindrance to proper physical development by the cause producing "bad teeth," their interference with good mastication adds a malicious factor to the abnormal condition, as well as opens a portal for the entry of infection. "Gritting" or "grinding" of the teeth in children, and even in adults, is popularly ascribed to worms, but this is a false notion, as it is usually due to some gastro-intestinal disturbance; it also accompanies the restless sleep of nervous children and, quite frequently, such diseases of the nervous system as meningitis, epilepsy and chorea.

The gums and buccal surfaces are normally rather deep shell-pink in color, smooth, moist, of shiny luster, constantly bathed by a thin mucous discharge from the salivary glands. The color is uniform throughout, consequently any deviation from this shade is abnormal and should be noticed by the attending nurse. It is possible to have an intense redness, due to various inflammatory conditions, a patchy redness, due to localized irritation which may develop ulcers. Small extravasations of the blood in the buccal lining are especially important indices of grave systemic disturbances, while diffuse yellowish or bluish discoloration points respectively to disturbances of the function of liver and lungs or heart. Small vesicles of the same character as "cold sores" also occur on the buccal surface, eventually forming small ulcers, called "cankers;" "canker sores" are due to some gastro-intestinal disorder; other ulcers less regular, whitish in appearance are known as "syphilitic plaques," or "patches;" they may also be simulated by mercurial sore mouth. Parasites, forming white patches, more or less curd-like in appearance, generally beginning on the tongue, are due to invasion by the fungus called "thrush." The rashes of the various erythemata also appear upon the buccal surfaces. The attention of the physician should be directed to the occurrence of any of the above deviations by being noted.

The salivary secretion may be increased or decreased, the latter producing dryness of the mouth; dryness may be brought about by nervous disturbances as fright, (a result from which no one has been exempt,) by mouth breathing and by a specific disease causing this phenomenon. In addition to febrile states, dryness of the mouth is associated with some stomach disorders and with forms of diabetes. Certain drugs, as belladona, also produce dryness of the mouth. This condition should therefore be noted by the nurse and reported to the attending physician.

The reverse of dryness, the excessive production of saliva, called "salivation" or "dribbling" or "ptyalism," is often the accompaniment of early pregnancy and of menstruation. It is also due to all forms of irritation of the mouth, such as dentition and stomatitis. The saliva may be thin as in dentition or excessively thick as in mumps. Certain drugs, as mercury, acids, tobacco and others, also produce ptyalism. Dribbling of saliva, when not in increased quantity, is due to inability to keep the saliva in the mouth, and accompanies certain forms of paralysis, such as that following diphtheria. It may also accompany idiocy and marked overgrowth of post-nasal adenoids.

The gums present along the line of the teeth a "gum-margin," which in health shows no especial coloration, except that it is paler than that of the gum below. This margin often becomes intensely colored, as seen in the blue or the blue-red line produced when mercury is given to intoxication. Formerly when lead and copper workers were more frequently poisoned by absorption of these metals the presence of these metals in the gums gave rise to a gray-blue or a green-blue line, respectively. A bright red line at the margin indicates a very serious disease of the teeth, known as "pyorrhea alveolaris." Lack of care also causes a redness of the margin due to food-decomposition irritation; a red line not otherwise accounted for is an index of rather low resisting power on the part of its possessor. The colored gum-margin must be distinguished from the black and dark stained border of the teeth at the gum due to faulty personal hygiene and also from the foul accumulation on the teeth in serious illness called "sordes." Decayed, ill-kept teeth, with abundant formation of tartar, produce red spongy easily bleeding gums; they are also due to malnutrition, and they are often seen in cases of bottle-fed infants. Gastro-intestinal disorders are also productive of this condition. The use of the tooth brush or swab by the nurse easily causes bleeding in such cases. giving rise to discomfort to the patient and foulness to the breath; such discoveries should always be reported.

(*To be continued.*)

200 Lexington Ave.

THE SLIDING SCALE.

By Amy Poole, R. N.

Buffalo, N. Y.

In an address to nurses, printed in a recent number of the Gazette, a physician advises as follows: "You must remember you belong to a profession and not to a Labor Union and while it is right that you should be remunerated and well remunerated by those well able to pay there should be with you as with physicians a sliding scale to suit the condition of the people who appeal to you for aid."

The sophistry of this "follow the leader" argument for the sliding scale when offered by a physician to nurses might savor of humor were it not for its expected acceptance as conclusive, and the grade of intellect thus by implication credited the members of our profession.

"Follow the leader" is an old game of happy memory and much merit when played with discretion, but if the course be laid across a river the safe landing of a flock of hens, with a duck in the role of leader, is doubtful.

The methods of the physician and the nurse in the matter of remuneration are not comparable. Things unequal to each other are unequal to the same thing is a formula applicable to the problems of life as well as to those of geometry. If our doctor on his morning rounds makes two calls at half price you may be sure that before his day's work is done he will have made four at the rate of one and a half—sixteen per cent. better off because he used the sliding scale.

Go ye, and do likewise. Speed the day. Let us equalize conditions a little, putting physician and nurse in the same class with no handicap by suggesting that the doctor make all his calls this month for half price with the understanding that there is a chance he may be able to get his regular rate, or perhaps a little more next month. We do not care to hear his theory of the amount of brain power taken to evolve this proposition, do we?

In considering this subject there are three factors to be reckoned with—the rich patient, the nurse, and the poor patient, with the nurse, indeed between the two and likely to fall to the ground. Contrary to a frequently expressed opinion, the nurse works at her trade for the same reason that the majority of people labor at theirs—not because "It is such a noble work," or because "She can do such a vast amount of good in the world," but because of the prosaic, every day fact that she, too, must be sheltered, fed, and clothed and is herself obliged to procure means to this end.

That a nurse should devote four weeks in each year to charity work was the opinion once proffered me by a benevolent old lady. Perhaps she should, but first explain why it is not equally obligatory for the stenographer to put a month of her wages to the same use. In view of the fact that few nurses are busy for more than two-thirds of the time, thus making their average income per week nearer fourteen dollars than the twenty gasped over by the public, has she so very much margin for charity? Looked at with discernment, is not the amount deducted from a bill for labor just that much charity? It is a curious freak of human nature that the very people who are the quickest to ask, even demand, that their nurse, a working woman and a stranger, give them four weeks' service for the price of three, would be the swiftest to resent as an insult a gift of twenty dollars from one of their "well able to pay" friends.

Because she has observed that the woman to whom twenty dollars means a new winter's coat is less likely to plead poverty than is the woman to whom it means the season's theaters, the nurse is inclined to object to the request that she come down in her bill as an attempt to persuade her to do another woman's economizing for her. If it be truly a case for charity she wonders why she, more than other working women is expected to give beyond her means. No scheme for securing skilled care for the wage earners which is not to the advantage of the nurse will prove efficient. (A serviceable plan is briefly outlined in the November, 1906, GAZETTE).

It is most unfortunate for the success of the sliding scale that the rich also have a point of view, which will intrude into the calculation. While we may, they do not, believe themselves to be fair prey for those less fortunate in the profession of worldly goods. And if they are to give to the poor should they not have the right to act as free agents in selecting the channels through which their bounty shall flow?

We are implored to remember that we do not belong to a Labor Union, but the successful management of the sliding scale would require the immediate formation of one with stringent by-laws. Who shall decide and by what criterion determine the price "suitable to the condition of the people who appeal to us for aid?" By what rule adjust the scale ranging from fifty dollars down to five advocated by one correspondent? To the founders of the Sliding Scale Union we respectfully suggest that the plan used by the men who collect ashes in this city has the merit of being easily formulated and is not difficult to understand. In a word, if living on Hoyt street you will be charged twenty cents a load; moving on to Delaware avenue raises the price to a dollar. Adapting this classification, how would this schedule do for Buffalo nurses? (Note its easy adjustment to any city). Elmwood avenue district, fifty dollars; Cold Spring precincts, twenty dollars; east of Main street, north of Broadway, ten dollars; below this line of demarcation, five. This averages up twenty-one dollars in a most orderly fashion. Now, how guard against one nurse working up a practice out Elmwood avenue, while her sister, just as competent, but less fortunate, toils day and night over on the East Side? I can tender no equitable solution of this difficulty while patients both rich and poor, to say nothing of the medical profession, presume to form preferences and continue to claim the right to choose who shall serve them.

Nurses make loud proclamation of their right to receipt their bills "for professional services rendered," nevertheless common sense teaches, and the United States Government has decided, that nurses are laborers. Labor, whether the workers belong to a Union or not, is subject to certain natural laws the world over, the most salient one being that, for any given locality, its market value is fixed within a comparatively narrow margin. In this fact is found the fundamental reason why the nurse will not be able to follow the physician's example in the matter of compensation, for while he does render professional service, for which there is seldom a fixed rate, she furnishes labor.

THE EDUCATION OF THE MATERNITY NURSE.

At a recent nursing conference in London the following paper was read by Dr. W. J. Gow, Obstetric Physician to Outpatients, St. Mary's Hospital. We are very glad to reprint it in full from the *British Journal of Nursing,* because of the good idea it gives us of the scope of various courses of training in England, and chiefly because the doctor rises far above the common level in his grasp of educational principles as applied to the training of nurses. We are tempted to print the last half of the paper in italics, and we commend it most enthusiastically to all nurses and doctors who are engaged in training others to work. Every training school board should include at least one Dr. Gow.

I have in the first instance to thank the promoters and organizers of this Conference for the honor they have done me, by inviting me to read a short paper here to-night on the education of the maternity nurse.

I have not attempted to deal with this subject in detail because in the first place such a plan would be dull, and in the second place I am not properly qualified to speak about certain portions of the training through which the pupil has to pass. I propose, therefore to offer for your consideration certain scattered reflections founded on the observation of the raw material as well as the finished product.

By a maternity nurse I mean one who acts as nurse to a woman during the lying-in period, attends upon the baby, and gives the doctor such assistance as he may require during the course of labor. The term monthly nurse often used as synonymous with this, is not a very expressive or a very dignified one, as it only indicates the usual time for which such a nurse is engaged and suggests only very indirectly the nature of her duties.

Education and educational methods have been so much in the air during the last quarter of a century that it is no wonder that a demand for a properly-trained maternity nurse has arisen. Not so very long ago the persons engaged in this class of work were mainly respectable middle-aged or elderly women, preferably married, who had had no special training or experience in the subject, except such as had been derived from the bringing up of their own babies or from assisting in a neighborly fashion, when their friends were in difficulties. Specimens of this class of women are still to be met with even in the houses of the wealthy, and are usually described as being "so good with the baby." They are generally large, so-called motherly-looking women and often possess the most astounding capacity for doing without sleep. Some of them possess undoubted virtues although their ideas of antiseptics do not generally rise above sprinkling Sanitas on the carpet. We may put aside these, however, as relics of the past.

The maternity nurses of to-day may be divided into three distinct classes. In the first class come those who after a full general nursing training have subsequently spent some months in learning the special work of the maternity nurse. These often take the opportunity also of qualifying as midwives. This class is comparatively rare. Only about fifteen per cent. of the pupils trained at Queen Charlotte's Hospital have undergone a general training as nurses.

The second class are formed by those who have passed through a course of study such as is required by the Central Midwives' Board, which of course includes maternity nursing, but who subsequently elect to practice not as midwives but as nurses.

In the third class are those who have studied maternity nursing, but have gone through no special course of practical midwifery.

Such are the maternity nurses as they exist today, and specimens of all three varieties are being turned out in large numbers at the present time from lying-in hospitals and elsewhere.

There can, I think, be no doubt that a course of training as a general nurse is an admirable preparation for the special study of maternity nursing, and that in fact maternity nursing is but a branch of general nursing.

I am afraid, however, it is impossible, from financial and other reasons, for all women who wish to occupy themselves as maternity nurses to go through this course of general training. We must accept things as they are, and be thankful that training of some sort has come to be looked on as essential. It must be remembered by those who might be inclined to take extreme views on this point that the lying-in woman is generally not very ill, and it sometimes happens that the fully trained nurse does not find sufficient scope for her knowledge in this kind of case. It is only fair to say here that I know many very capable and reliable maternity nurses who have never had a general training.

This, however, is a matter which is somewhat outside the subject under discussion. We have now to consider the kind of training and the duration of the training which is best adapted to turning out a satisfactory maternity nurse, and at this point I shall ask you to allow me to describe to you briefly the form of training which is adopted at Queen Charlotte's Hospital. The pupils who enter there are divided into two classes and are known respectively as pupil midwives and monthly nurses. The pupil midwife, who generally intends subsequently to practice as a maternity nurse, enters for a course of five months' training, unless she is already a fully-qualified medical and surgical nurse, in which case the period of training is reduced to four months.

For the first two months she is on day duty in the lying-in wards, learning the duties of a maternity nurse and having two cases under her special care. During this period she attends in the labor ward and looks on at the birth of the babies of the patients that she is going to nurse. During the third month she is on night duty in the lying-in wards, and takes the opportunity of being present at as many labors as possible.

In the fourth month she works entirely in the labor wards, and goes round the wards of the hospital with the visiting physicians.

During the fifth month she lives with one of the out-patient midwives, and attends cases of labor under her supervision and visits the patients so delivered for the first ten days.

The pupil midwife attends a course of lectures on elementary midwifery given by one of the visiting staff, and there are also tutorial or revision classes held by the resident medical officer and the matron.

The description of the education of the pupil midwife might seem out of place were it not for the fact that the great majority of those trained as such do not practice as midwives, but as maternity nurses, and this course of training is the one which the more educated type of pupil is advised to pursue.

There are, however, certain women who wish to gain their living as maternity nurses who, from lack of certain intellectual qualities, or from a deficiency in their early education, are unwilling to attempt so elaborate a training, and feel themselves incapable of studying for the examination which the pupil midwives have to pass. The training of this class, who are known as the monthly nurses, lasts for four months. For the first three months they are on day duty in the lying-in wards, and perform similar functions to those of the pupil midwife in the earlier period of her training.

In like manner they go to the labor ward and watch the cases delivered that they are subsequently going to nurse. During the fourth month they are on night duty in the lying-in wards and continue to watch deliveries in the labor ward.

Nurses thus trained probably practice for the most part among persons of limited income who cannot afford fees such as may fairly be claimed by those who have had a longer and more expensive education.

There is considerable variation in the duration of the training of the maternity nurse even among the London lying-in hospitals, and it was possible not so very long ago for nurses to enter for a course of training which only lasted one month. There is fortunately at present a tendency for teaching institutions to raise a minimum period for which a nurse may enter to at least three months, and there is no doubt that this is really too short. Given a reasonably intelligent pupil, the five months' course of training as given at Queen Charlotte's Hospital seems to me fairly adequate.

It is clear that the would-be maternity nurse has much to occupy her mind during this period of training. If she has had no previous experience of dealing with sick people, she has first and foremost to learn, as completely as is practicable in the time, the elements of nursing, so that she may be able to do all that is requisite for the mother, at any rate, when the puerperal period is uncomplicated.

She has also to study the art of handling the baby and to make herself acquainted with the habits and peculiarities of very young infants. Further, it is essential that a maternity nurse should possess a good working knowledge of the course of normal labor, and of the accidents that may happen both before and after it. A nurse may at any time find herself face to face with some serious complication; in the absence of the doctor she ought not only to be able to recognize it, but she may also be called on to cope with it until further assistance can be obtained. This role she may not often be called upon to play, but a knowledge of how to deal, even temporarily, with emergencies can be obtained by a study of the elements of midwifery. Panic, which so often seizes on a nurse at such moments as these, is largely the result of ignorance, and the more thoroughly she has studied the subject, the less likely is she to be frightened, in the time of danger. It is for this reason that I strongly advise that those who are going to take up maternity nursing, should spend a certain portion of their time in the actual study of midwifery. If this is not done during the period of pupilage the opportunity for doing it may never occur.

And finally she has to learn to be clean; not merely the theory of cleanliness, but its practice. It is only by a careful system of drill that she will be able to carry out in the private house the system of cleanliness which she has learnt in the hospital. Such an opportunity is afforded to her by her work on the district.

A lying-in hospital is not merely an institution for teaching, but it affords the intelligent pupil an opportunity to learn, an opportunity such as she may never have again.

In these modern days there has, I think, been a tendency to exaggerate the importance of the teacher. I say this with some hesitancy, because there is a very formidable body of men and women belonging to this profession, and both they and the general public talk and write much about the science and art of teaching.

But if each of us look back on our own career, whilst I am sure we are all ready to admit how much we have gained from some of those who have taught us, yet there were some things which we learnt for ourselves and the very fact of finding them out for ourselves was of inestimable value. The modern teacher is too apt to think that the pupil cannot acquire anything unless it is stuffed into him or her, as the case may be, and thus the pupils of the present day run the risk of being overtaught. They become mere passive receptacles into which vast masses of information are poured in a very short time. They are given no time for thought and observation and no time for digestion. Books are studied in the same spirit and facts and statements are memorized from books, whilst the actual things thus described are going on before their eyes, unnoticed.

I do not wish to disparage the teacher or the teaching art; it is an art given to few. The teacher has many most useful functions to perform. First and foremost he should be able to excite enthusiasm in those who come to learn. He can do much by preventing the pupil from confusing that which is rare with that which is common. That which is rare and unusual seems to have a fatal fascination for the pupil and is eagerly retained by the memory at the expense of the common things of everyday life.

The constant repetition of common rudimentary facts and principles is one of the great duties of the teacher. The necessity for this repetition soon becomes painfully obvious to those who both teach and examine. The teacher should also try and inculcate in the pupil as far as possible clearness and correctness of thought and language. How often do you hear pupils who are asked a question say: "I know the answer quite well, but I cannot express it"? The pupil who says that is laboring under a misapprehension. I think it may be fairly asserted that no one understands a thing properly until he or she can explain it to someone else. In the training of maternity nurses constant efforts should be made to see that, as far as possible, what is learnt is clearly apprehended, and that they are not merely taught how to do certain things, but also why they do them. A knowledge of the reason of so many of the acts they are taught to perform is constantly found to be lacking.

To many such pupils books of a serious nature are somewhat of a novelty, and a study of them is consequently often attended by comparatively small benefit. To pick out the essentials, and what you might call to tear the heart out of a book requires both skill and practice. The pupil should learn to compare the statements found in books with what she sees in her daily rounds, and should not at once blindly accept them because they are in print until they are found to correspond with her experience. A fairly wide experience of both the written and verbal answers of pupil maternity nurses furnishes endless examples of the way books are misused. Ordinary every day methods of treatment which she has seen practiced a score of times are passed by and the candidate describes in considerable detail some obsolete though perhaps rather striking method which she has read of in a book, all the time being apparently perfectly aware that the method she is describing is obsolete, because she ends up her description generally by saying "this however is a bad method."

After a good many years' experience as an examiner, I have acquired a small stock of two or three questions of extraordinary simplicity, the nature of which it is not my intention to divulge, which prove stumbling blocks to all but the most intelligent candidates. The candidates have been losing themselves in the intricate by-paths of obstetric medicine and have overlooked some of the most striking and obvious facts that must have come under their notice during every day of their pupilage.

The object of the course of training

which the maternity nurse goes through is to lay a foundation both of theoretical and practical knowledge. After a brief training no nurse can expect to reach finality. What is known as experience comes slowly and never comes at all to those who have not made their foundations sure, or to those who in early youth have made up their minds that they have reached such a stage of excellence that they have nothing further to learn.

Without knowledge and without humility experience can never benefit anyone. In the erroneous but popular acceptation of the term, Mrs. Gamp would stand high as an example of an experienced midwife, but to people of that type increasing years only bring increasing ignorance.

With all due deference to those present this evening a really good maternity nurse is not a very common thing to find, and the quality of all others which many of them lack is discipline. A three years' training in a general hospital, if it teaches nothing else, teaches discipline, but those who go out into the world after a few brief months spent at a lying-in hospital often most sadly lack this most essential quality.

During her short period of training the pupil has probably been engaged in the study not only of nursing but of the duties of the midwife, and when subsequently she takes on the function of the maternity nurse she not infrequently confuses herself with the doctor. No greater mistake can be made than for two people to try and treat the same patient simultaneously. This lack of discipline is generally due to ignorance, and to the fact that she has not been properly taught what are her duties towards her patient and towards the medical attendant. The position of the maternity nurse in a household is an extremely difficult one and full of pitfalls, and only those who are born wise are ever likely to attain supreme excellence.

An appreciation of these difficulties, and the practice of discretion and self-control will, however, enable those who are less gifted by nature to pass through life with satisfaction to their patients and to themselves. It is only by the realization of our mistakes that we are ever likely to improve. In this age of ours everyone describes his occupation as a profession, whether he be a plumber or whether he be a poet. It is the custom to speak of the work of the doctor and the work of the nurse alike as a profession, but we must ever remember that both alike are also handicrafts and that to learn a handicraft takes much time and demands much serious effort and thought. Many nurses immerse themselves far too exclusively in theoretical knowledge and miss the opportunity of learning not merely how to do things, but how to do things well. The maternity nurse is not expected to have an encyclopædic knowledge of the diseases of women and children as the result of a five months' training and it is well to avoid the pose of being omniscient.

The proper appreciation of the importance of the mechanical side of our work cannot be too strongly kept in mind, for otherwise whilst we are talking of our profession we go through life as bunglers.

THE HOSPITALS OF PORTUGUESE EAST AFRICA.

We continue our excerpts from the interesting letters of Dr. Nicholas Senn by presenting, this time, a portion of his comments on medical affairs in Mozambique and Beira, as given in the *Journal of the American Medical Association* for Sept. 1, 1906. We are obliged to omit much of the doctor's very readable description of the country and the people:

MOZAMBIQUE MILITARY AND CIVIL HOSPITAL

I have never been in a colony or protectorate where the native sick are treated with so much consideration and are taken care of so well as in Portuguese East Africa. The colony has no separate hospitals for Europeans, as in British and German East Africa, but white and black live under the same roof and receive the same care. We miss here the superb, costly buildings set aside exclusively for the care of Europeans, such as I have described in speaking of British East Africa and German East Africa. Of all nations owning or protecting foreign lands, Portugal has had the longest experience and has learned how to treat alien subjects without causing friction. The sentiments of the people are considered in formulating rules for their government. Perhaps the most important secret of Portuguese peaceful colonial rule is found in the fact that the line of division between the officers and the people of the home government and the blacks is not as sharply drawn as in the colonies of other nations. It is the conspicuous preference given to the whites that stings the blacks, the rightful owners of the soil. The Portuguese have learned this by a long experience and shape their rules accordingly.

I can give no more striking example of Portugal's lenient foreign policy than by a brief description of the Mozambique Military and Civil Hospital, which answers to the construction and administration of every other government hospital in Portuguese East Africa, of which there are several. In the first place, these hospitals are built and, at least in part, maintained by the government, and are in charge of Portuguese military surgeons, especially trained for their manifold functions. In the second place, the sick in the colony, white and black, officers, government officials, soldiers, policemen, rich and poor, educated and ignorant, old and young, men, women and children, are under the same administration. While the whites are given preferences, these do not stand out in the eyes of the natives in such sharp lines as in the hospitals of most of the other colonies. The same doctor who treats the whites attends to the blacks; the same sisters who nurse the Europeans take care of the natives. The difference, if any, is in degree, not in kind, and it is considerations like these that the negro knows how to appreciate.

The hospital was built twenty-five years ago, and at that time it would have compared well with most of the hospitals of Europe and America in construction and equipment. Its architecture is decidedly Spanish in style. Like all other substantial houses on the coast of Africa, it is built of rough stones of coral rock, with a heavy inside and outside coating of cement. The two main buildings are two stories high and serve for private rooms of patients of the first class, small wards for the second class, directors' apartments, pharmacy, storerooms, chapel and dormitory for the sisters. The large wards for patients of the third class and all charity cases are in one-story pavilions, the blacks in separate wards. The first-class patients pay $2 per day, the second-class 75 cents and the third-class 25 cents. Light and air flood every room of the handsome, well-arranged complex of buildings, which on one side face the principal street of the city and park and on the other the harbor. As the city of Mozambique must rely on rain for its water supply, each house has its own cistern. The hospital has two immense underground cisterns, with a total capacity of 600,000 tons, which furnish an abundance of pure, cool drinking water. These cisterns are located between the pavilions. The spaces between the main buildings and the wings are paved with flat stones and are kept as clean as the mosaic tile floors in the interior of the buildings. The hospital has 200 beds, and during the rainy season, when malaria is most prevalent, its full capacity is heavily taxed, but at the present time the number of patients is only eighty. The pharmacy is in charge of a competent druggist and is well stocked, and the two large storerooms are well supplied with medicines, dressing materials, bedding, etc. The operating room is small but well constructed and equipped for modern surgical work. Very little surgery is done here, as in all other East African hospitals, on an average not more than two operations a day, and most of these are minor operations. A Roentgen apparatus has recently arrived and will be put in operation as soon as electric power can be secured, and then it will be the first one to be employed on the east coast of

Africa. Dr. Francisco Maria do Amaral is the director of the hospital and is assisted by three other military surgeons. He speaks English fluently and has kept pace with the modern progress in medicine and surgery. He took great pains in explaining the details of the hospital work and in showing the interesting cases then under treatment.

Eight Catholic sisters have charge of the nursing and they are assisted by orderlies and native helpers. The average number of patients during the year is about 2,000. The patients come from all parts of the province of Mozambique. Dr. Amaral has been stationed here for a long time and has never seen a case either of carcinoma or appendicitis in the black. The same holds true of the Eskimos of the far north, as I ascertained last summer when I went to Etah, the most northern habitation of man. It seems, then, from the geographical limits of these diseases that civilization with its complicated dietetics is responsible, to a large extent, for their prevalence in Europe and the United States.

Beira is one of the hottest places on the coast. The hottest months are December and January. At this time the thermometer not infrequently registers 120 F. in the shade, and I was told that eggs placed on the hot sand and exposed to the burning rays of the sun were cooked hard in a short time. Throughout the year it is disagreeably warm from 10 o'clock in the morning until 4 in the afternoon, and during this time the people remain in their houses and very little work, if any, is done. Even the post-office officials have their midday siesta. The mealtimes are so arranged that they do not interfere with the working hours. The first plain breakfast early in the morning is followed by a second one at 11:30 A.M., which is a substantial meal. Dinner is served late in the evening.

BEIRA GOVERNMENT HOSPITAL.

Beira has only one hospital, which was built and is maintained at government expense. It is beautifully located in park-like grounds and faces the principal street on one side and on the other side the bay. The hospital was built ten years ago at a cost of $25,000 and has room for sixty patients. At present, the coolest and healthiest season of the year, the number of patients does not exceed thirty, and most of these are suffering from malaria. The government physician, Dr. José Aranjo de Lacerda, is in charge of the hospital and the nursing is under the care of five Sisters of St. Francis. The hospital consists of two one-story brick and cement barracks, one for the whites and the other for the blacks. The cots in the latter building are the narrowest I have ever seen, hardly eighteen inches in width. The framework is made of iron bars, on which a piece of canvas is stretched. Each cot is supplied with two white sheets and a pillow, and the patients on these, the narrowest of all beds, appeared to be comfortable. Simple and plain as these beds are, they must seem a luxury to the blacks, who know no softer bed than a mat on the bare ground. In the cottage for the whites are a number of plainly furnished but very comfortable private rooms, for which a charge of $5 a day is made. In the little wards the second-class patients pay $1 a day. Few of the negroes are able to pay anything, and as this class of patients during the year is large they become a heavy tax on the financial resources of the hospital. The drinking water is obtained from a subterranean cement cistern, in which the rainwater is collected. For other purposes the water is obtained from a well on the hospital grounds. The sisters live in a separate building. In another completely detached small building are the bathrooms and closets. The wash-house is in an open shed, in which there are a number of large cement tubs, in which the native employés do the washing by hand in the customary primitive way. Provision for postmortem is made in a small morgue, where two large slab tables were waiting for the next victims, who will not be long in coming. The hospital has a large dressing-room, where the outdoor patients are attended to and where the few operations are performed, as there is no room set aside for this special purpose. Dr. Lacerda said that during the year not more than two capital operations are performed. From all I have seen the east coast of Africa is no place for surgery.

NURSING IN THE FRENCH HOSPITALS.

The startling inefficiency of the so-called nurses, *infirmiers* and *infirmières*, in the French hospitals was strikingly exemplified in an epidemic of typhoid fever which started in the children's wards of the Trousseau hospital. Following the entrance of a patient suffering from typhoid fever, 13 cases appeared amongst the 91 children distributed in the several wards of the pavilion for eruptive fevers. Though the boys and girls were in the same wards and treated by the same nurses, all of the thirteen cases of typhoid appeared amongst the girls. This led to an investigation and it was found that there was at that time an epidemic of vulvo-vaginitis. It was discovered that the nurses used the same cotton and boric acid solution to wash the vulvae of the little girls suffering from this local inflammation. One of them having typhoid fever the disease was transmitted to 13 others! It surely would be hard to imagine a more filthy practice.

In striking contrast are the London statistics of the London Fever Hospital, where from 1861 to 1882, 6,572 patients were treated in the same wards with 5,350 typhoid cases without one case of internal contagion.

There is probably no country in the world where nursing is so primitive as in France. The so-called trained nurse is unknown, the *infirmiers* and *infirmières* being recruited amongst menial servants or often from old chronic patients, who have become habitués of the hospital after their recovery.

As the importance of careful nursing cannot be overestimated it is fair to state that thousands of lives are lost because of the inadequate and inefficient nursing corps in the hospitals.—Editorial in the *Paris Medical Journal.*

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

Inasmuch as more than nine-tenths of our nurses are women, it is certainly fitting that the majority of the educational boards in charge of training schools should be women. And so fast as possible these boards should include in their membership graduate nurses who have become permanent residents in the neighborhood.—Alfred Worcester, M.D., *in the Boston Medical and Surgical Journal.*

Disinfection of Rooms by Formaldehyde.—Higley has experimented with formaldehyde for disinfection of rooms. He used: 1. Trillat autoclave. 2. Heating formalin in an open vessel over a powerful flame. 3. Paraform tablets. 4. Potassium permanganate method, as proposed by Evans and Russell. 5. Lime method, as proposed by H. V. Walker. By far the best comparative bactericidal results were obtained by the lime method.—*New York Medical Journal.*

To Purify Drinking Water.—M. Lambert proposes to add 6 centigrammes of potassium permanganate to each litre. This should be left ten minutes, after which 10 centigrammes of manganous sulphate should be added. This precipitates all germs and impurities to the bottom of the vessel. Carefully decanted this, says the Paris correspondent of the *Chemist and Druggist,* will give "water not containing a single microbe, limpid, colorless, of pleasant taste, and even richer in oxygen than ordinary water."—*N. Y. Med. Jour.*

Sterilization of Catgut.—Stich describes the method of sterilizing catgut with silver nitrate which he has been using since 1903 to his great and increasing satisfaction. The catgut is placed in a cylinder filled with a 1 per cent. alcoholic-ammoniacal solution of silver nitrate, protected against light, in which it is left for from fifteen to thirty minutes. It is then rinsed in alcohol and exposed to sunlight in a second, sterile cylinder. The catgut is then transferred to a vessel containing alcohol and 10 per cent. glycerine, when it is ready for use.—*Journal A. M. A.*

The Dangers of Carbolic Acid.—In spite of the numerous warnings of the dangers of solutions of carbolic acid, this form of antiseptic dressing for wounds still claims new victims. Tillaux, Billroth, Poncet, Brun, and many other authorities, have reported cases of erythema and of gangrene, and even of general poisoning, caused in this way. It is especially as a popular wound dressing that carbolic acid has produced the greater number of accidents. Veyrassat and

Rychner (*Revue médicale de la Suisse romande, La Tribune médicale,* May 22) report six cases in which such applications caused local gangrene, followed in some cases by cicatricial deformities, others requiring amputation. This subject was also recently discussed in the Société d'anatomie et de physiologie de Bordeaux (*Gazette hebdomadaire des sciences médicales de Bordeaux,* No. 17, 1906), and illustrations were given of the serious dangers of even weak solutions of phenol, when kept in contact with the skin.—*N. Y. Med. Jour.*

To Disinfect Raw Fruits and Vegetables.—Dr. Ross C. Whitman of the Bacteriological Laboratory of the Department, furnishes the following interesting hint to housewives:

Recent experiments conducted in the Laboratory have demonstrated that the typhoid bacillus, which may be found upon fruit or vegetables designed to be eaten raw, can be killed by immersing these articles of food in a 5-per cent. solution of tartaric acid for half an hour, and then removing the acid by rinsing in clear water. Such a solution of tartaric acid may be prepared by dissolving one tablespoonful of tartaric acid in a pint of water.

Tartaric acid is a fruit acid. It is derived from the grape, as citric acid is derived from the lemon. This acid is absolutely harmless, being an important constituent of cream of tartar, which the housewife uses every day. Such a solution of tartaric acid will kill all the typhoid bacilli that may be upon celery, lettuce, radishes, or other vegetables and fruit, as well as oysters or clams that are to be eaten raw. In this way all danger of contracting typhoid from these sources is absolutely avoided. The tartaric acid can be very readily removed by rinsing in clear water. This is a practical household method, and should be used by every housewife.—*Weekly Bulletin of the Chicago Department of Health.*

To Remove Stains of Potassium Permanganate.—Potassium permanganate is too useful a drug to be put aside because it stains the clothing or the fingers of the operator. The removal of these stains is so simple that one wonders why oxalic acid is so much used.

I have used potassium permanganate freely, and have never failed to immediatelly remove its stains by using hydrogen peroxide. If the office towels or the patient's linen are stained, there is no need to hurry. The stains will come out just as readily, no matter how old they may be.

Quite frequently potassium permanganate is used as a mouth wash or as a paint for the tonsils. A text-book recommends its use in these conditions, but warns against its blackening the tissues and the teeth. This warning can be discarded, for pure hydrogen peroxide will immediately bleach the parts.

The operator who uses the permanganate method of hand sterilization will find complete satisfaction by dipping the hands in a bowl of hydrogen peroxide diluted to just the point of sufficient strength. If used in full strength, the only thing to be considered is the cost. However, it will be found a boon to those whose hands get rough after repeated permanganate and oxalic acid washings.

In short, the advantages of this non-poisonous decolorizer need only be mentioned to be appreciated.—Richard A. Taylor, *in the New York Medical Journal.*

Surgical Asepsis.—Barker states that the air of most cperating rooms is not a great danger to open wounds, providing that the rooms be not too crowded, and rapid currents of air be avoided. The instruments employed in operations can be rendered sterile by boiling in soda solution, the aprons, dressings, bandages, etc., by exposure to saturated steam. For ligatures and sutures the author has for years used linen thread exclusively, but it is possible to restrict the use of ligatures almost to zero by the employment of hæmostatic forceps. The most important question is the sterilization of the skin, both of the patient and of the surgeon. To cleanse the skin of the patient the writer relies on repeated hot baths of the whole body; in addition he covers the whole of the patient's body just before operation with a sterilized sheet through which a hole is cut only large enough to permit of the operation being done through it. The cleansing of the surgeon's hands is the weakest point in modern asepsis. No method is perfect; probably the best is washing with very hot running water, pure soap, and brush, followed by pure spirit, and repeating such washing many times during the operation. The writer, though one of the first to use rubber gloves, distrusts them, except to keep the hands clean for operation. They make the hands perspire, such perspiration containing numerous micro-organisms. He prefers to take all possible precautions to prevent the hands coming in contact with fresh cut surfaces. Sterilizable instruments can almost always be used instead of the fingers, and all cut surfaces should be at once covered with sterile gauze by means of which the tissues can be handled if necessary. Only one assistant should take active part in the operation. Before the operation the surgeon and the assistant should wash their mouths carefully with an antiseptic. Should they have catarrhal colds, carious teeth, etc., the mouth and nose should be covered with a four-fold sterile gauze bandage tied behind the head.—*Lancet.*

Book Reviews.

Food and Diet in Health and Disease. A Manual for Practitioners of Medicine, Students, Nurses and the Lay Reader. By Robert F. Williams, M.A., M.D., Professor of Principles and Practice of Medicine in the Medical College of Virginia, Richmond. Duodecimo volume of 392 pages. Lea Brothers & Co., Publishers, Philadelphia and New York, 1906. (Cloth, net, $2.00).

Dr. Williams has rendered an eminent service to his readers by preparing a thoroughly scientific treatise in plain and simple language. Technical terms are freely used wherever necessary, but they are not employed promiscuously to give the book an air of erudition. The result is a book easy to read and convenient to use in the classroom, office, or kitchen.

Part I. treats of "Food in Health," taking up in succession the chemistry and physiology of foods and the effects of various methods of cooking. The different kinds of foods and beverages are then dealt with in detail. Much valuable information is summarized and systemized in the tables taken from the reports of the United States Department of Agriculture. The author lays down the principles that should regulate the quantity of food and the frequency of feeding and discusses the relation of food to exercise, sleep, tobacco and the age of the eater. This portion of the book closes with a chapter on "Food in Infancy."

Part II., under the caption of "Food in Disease," describes various ways of feeding the sick and prescribes the appropriate diet in all of the common varieties of disease. Here the author has succeeded in sifting many theories and systems of dietetics and in saving the best ideas for his readers. The final chapter gives the dietary of the Memorial Hospital in Richmond, Virginia, and over twenty pages of practical recipes which cannot fail to contain some new hint for every one who has to face the problem of feeding the sick.

The book is remarkably free from inaccuracy and error; on the other hand, many pages might be singled out for special commendation—such as that dealing with the selection of poultry for cooking, or on the cooking of dried legumes.

The volume is nicely printed in type of good size and provided with a comprehensive index. It deserves a wide circulation and ought to be popular with the laymen as well as those who count dietetics as a part of their professional province.

Health Talks About Children: A Plea for the Child. By John Grimshaw, M.D., B.S. (Lond.), D.P.H. (Camb.), M.R.C.S. (Eng.), etc. Second impression. P. Blakiston's Son & Co., Philadelphia.

This is intended for mothers and consists of Health Talks delivered to mothers in different parts of Birkenhead, England, and bound into a booklet of some 80 pages. These Health Talks embrace artificial feeding of babies, indigestion, vomiting, digestion, diarrhea, constipation, colic, patent medicines, wasting, convulsions, bronchitis, rickets, scurvy, patent foods, and an appendix on feeding instructions. It is a readable book and contains much valuable information to the physician as well as to mothers.

Transactions of the Third Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine Hospital Service, May 15, 1905, and May 23, 1906. Government Printing Office, 1905 and 1906.

The first one of these two volumes, that for 1905, gives interesting and instructive papers and discussions on the national control of leprosy, methods of the transmission of typhoid fever, sanitation of railway cars and an appendix which is reports on State health laws enacted during 1904.

Dr. Victor C. Vaughan does not believe that water supply has as much to do with the transmission of typhoid as commonly credited. He states his belief that 66 2-3 per cent. of cases are due to personal contact, a statement which should be changed in view of recent experiments at Petersburg and Scranton, Pa., not to mention reports of epidemics in various parts of the world for the last ten years. The people should not be led to believe that water in the neighborhood of a typhoid epidemic can be safely used without being first boiled.

In the Transactions for 1906 we find discussed the pollution of streams, railway car sanitation, the prevention of tuberculosis and an appendix. The discussion on railway car sanitation is very interesting and should be discussed in both medical and lay journals.

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THE CANCER PROBLEM

By Robert Bell, M.D., F.F.P.S., Etc.

London, Eng.

It has been assumed that trypsin must necessarily be of no avail in the treatment of cancer, from the fact that the pancreas is frequently the seat of this disease. That, however, is no argument against the possibility of this ferment being of value in the treatment of the local outcrop of cancer, because, before the malignant tendency has developed, the secreting power of the gland will have practically ceased in consequence of the long-continued toxic condition of its blood supply, which has for some time been gradually undermining its physiological integrity. Now it is impossible for this to continue for any length of time without a serious falling away from the healthy standard being the result, and eventually a pathological condition being established. In such circumstances then the pancreas will be just as liable as any other gland, subject to similar conditions, to become the seat of malignant disease.

Until we make up our minds to acknowledge the fact that cancer takes its origin in a faulty condition of the alimentary canal, induced, firstly, by burdening it with work which it is incapable of performing, and, secondly, by permitting the retention of a noxious decomposing and toxic mass to remain for an undue length of time within its walls, through which its toxins gain access to the blood and there exert a most pernicious influence upon its essential constituents, we can never hope for physiological harmony to continue, and disease will be the inevitable consequence. Will any one be so bold as to deny this? Why, then, do we persist in ignoring what after all is only common sense?

Since writing the above a paper has been sent to me containing an article inspired by Dr. Nicholas Senn, one of America's most famous surgeons. In lecturing on "Cancer and its Cure" to his students at the University of Chicago, he brands men, who hold views on the treatment of cancer which differ from his own, as "men with consciences irremediably blunted," and he dogmatizes in a way which demonstrates most clearly that he has not given much attention to the natural history of the disease. At the same time he ignores the fact, for fact it is, that in no single instance has either he or any one else known the knife to succeed in removing cancer or preventing its recurrence. On the other hand, I can produce a number of instances where medicinal and dietetic measures have succeeded in accomplishing this happy result, aye, and in cases which have been refused operation in consequence of the disease being too far advanced to warrant such a proceeding. During a period of fifteen years I had innumerable opportunities of operating upon cancer patients, and it was because I never had a case where recurrence did not take place—nor could I hear of any other surgeon being more fortunate—that I determined in 1894 never to operate in malignant disease again. Since that period, notwithstanding what Dr. Senn has stated, my cases have recovered from the disease, whilst, on the other hand, those who have been treated surgically have without exception had their sufferings aggravated and their lives shortened. Is this not the truth?

Dr. Senn, for whom, as a surgeon, I have the greatest respect and admiration, has arrived at certain conclusions, which are as erroneous as they are contradictory from his own showing. He confines his treatment to a symptom, ignoring the disease, and only takes cognizance of the local manifestation of its presence in the system. Would he for a moment suggest that by the removal of a tubercular gland he would succeed in curing tuberculosis? And this is a parasitic disease, which he is bold enough to affirm cancer is also. This, however, is only an assertion on his part, as this source of cancer has never been proved, nor will this ever be found to be accountable for its existence. No parasite has, nor will be discovered in connection with this disease. Its natural history excludes the probability even of such a theory being verified. Besides what benefit can possibly be conferred by operating for a parasitic disease? Surely it does not require a surgeon to answer that question, and yet Dr. Senn proclaims it to be a parasitic disease, and declares at the same time that operation is the only remedy. Unfortunately Dr. Senn does not stand alone in thus dogmatizing; so much the worse for the poor victims. Then Dr. Senn makes a statement which is absolutely correct, viz., that "primitive races are exempt from cancer." He does not explain, however, why this is the case, though he must know that the exemption is due to their diet and simple mode of life being more in conformity with those fundamental laws which, when observed, tend to promote healthy cell life.

He next goes on to state that "civilization and luxurious living appear to have a decided influence in increasing the frequency of cancer." I would go further and say that "luxurious living," not civilization, *per se,* has not only "a decided influence in increasing the frequency of cancer," but is in *every* instance, when combined with the neglect of hygienic laws, the direct cause of its incidence. This, and not a parasite, is the source of cancer, and it is because there is more indulgence of the appetite, and more neglect of the sanitary condition of the intestinal canal in America and Europe than elsewhere, that the disease is more prevalent, as Dr. Senn avers it is, in these regions.

Furthermore, after having pronounced that cancer is a parasitic disease, Dr. Senn goes on to say "the *real cause* and *true nature* of cancer are unknown, and will have to be ascertained by further observation and research." How are we to reconcile such paradoxical statements as these? I must confess I am unable to do so.

The only way to arrive at any correct scientific conclusion is to begin at the bottom and work upwards, not to commence at the top, as has hitherto been the case in the study of cancer by surgeons. To obtain a correct view of this or any other disease we must of necessity master their natural history and not jump to conclusions prematurely, and found these conclusions upon a single symptom. What would one think of a physician who, if he, finding a patient suffering from a high temperature, treated the case in a routine way, and only gave heed to this universal symptom of fever, without for a moment going into the subject of its causation. Yet this is exactly how surgeons act in their treatment of cancer. They only treat a symptom, and, what is more, leave the patient in a worse position than he or she was in before.

But to return to Dr. Senn, who goes on to make a statement, which every one is cognizant of, viz., that "cancer manifests a decided predilection for advanced life, the majority of patients afflicted with this disease being from 40 to 60 years of age." With this bare statement he leaves the subject and does not explain in any way whatever why such should be the case, as it undoubtedly is. It is this superficial and perfunctory method of viewing a terrible disease, and yet one I am convinced which is not only curable without the knife, but preventable also, that makes one so indignant.

As a rule no measures are adopted or recommended whereby recurrence might be averted, and thus possibly a happy result be attained. On the contrary, the surgeon has done the operation, has pocketed his fee, complacently mollifying his conscience by making himself believe that he has done all surgery can do in the circumstances, though he knows, all the time, that he has not succeeded in conferring one particle of benefit on the patient, and that sooner or later—but more certainly sooner than later, when surgery has had its innings—the disease will reassert itself, and that in a more virulent form than would have been the case had the parts been left alone. Moreover, the sufferings of the patient will in consequence have been aggravated, and his or her life shortened in the majority of instances. Yet this blunting of the conscience goes on year after year, and if one lifts up his voice and proclaims there is a more rational, a more successful, a less painful and a less humiliating method of treating cancer, and that without mutilation, the man is set down either as a madman or a quack. All I can say is, I would for the sake of all concerned there were more such madmen and quacks. Fortunately, however, they are neither the one nor the other, but men who not only know what they are talking about, but who are able to substantiate every statement they make.

I know I am at present like one crying in the wilderness, but it is a wilderness of error, perversity, prejudice and ignorance—the only vegetation it can boast of. Be assured, however, that the good seed sown will ere long make that same wilderness, like the desert, blossom as the rose.

But why has cancer a decided predilection for advanced life? Just because that, like everything else, there is not so much elasticity when maturity has been attained as there existed during the process of growth. Notwithstanding this, however, the mature plant, or tree, or animal can be maintained in a healthy condition if it be subjected to fair play, and its physiological activity is encouraged by judicious measures; otherwise the tendency will be towards a departure from the healthy standard. And it is because the human body does not obtain fair play when this becomes more essential to its integrity than was the case during its period of growth that cancer tends to manifest its presence at a later period of life. It is when maturity is established and cell life becomes more routine in its existence and therefore more dependent upon the healthy and constant physiological activity of those organs which preside over normal cell metabolism. This duty, however, these organs are unable to fulfil in a satisfactory manner if they on their part are deprived of a healthy blood supply, and receive a toxic fluid in its place. It is the continued disregard of dietetic and hygienic laws that is accountable for this depraved condition of the blood stream, and the pernicious effects upon the functional activity of not only the blood glands, but also upon the organs of digestion and assimilation and the nervous system. How then is it possible in such circumstances to expect normal cell life to continue? Then consider how seriously the blood itself is affected by the continuous absorption of enterotoxins, which are produced in such enormous numbers where an excess of highly decomposed substances have been thrust into the stomach, which it cannot possibly digest. Therefore, for the most part these must of necessity pass into the intestines, there to undergo putrefactive changes. Can we wonder then that disease is the result? Not only are the red corpuscles rendered incapable of performing their important duties in a satisfactory manner, but in many instances are destroyed in large numbers; while those important organisms—the leucocytes—are also seriously affected and handicapped, and to such an extent that it is impossible for them to perform their scavenging duties to anything like an efficient extent. And so matters go on from bad to worse, till eventually pathological changes supplant those of a physiological and normal character. Cancer then is one of the inevitable results if a halt is not called before the mischief has proceeded too far. In other instances, it may be rheumatism, gout, eczema or dyspepsia, any of which may prove a blessing in disguise.

Dr. Senn goes on to assert—but it is only an assertion without the slightest foundation in truth—that "cancer is a local disease in the beginning, becoming general by its extension through the lymph channels and the general circulation." It is hardly necessary for me to confute such a statement at this time of day, seeing I have dwelt so frequently upon its pathogenesis on many previous occasions. I must confess, it is far beyond my comprehension to understand how a man can stand up and dogmatize in this manner, when it has been demonstrated over and over again, as Dr. Senn admits, that primitive races are exempt, and that luxurious living has a decided influence in increasing a *tendency* to cancer; then, that it is a parasitic disease—which, however, is a mistake—then again that its true nature and cause are unknown. What authority, I ask, has he for stating it is a local disease in the beginning? I admit he is right so far, when he states that it may and does extend through the lymph channels and the circulation. This, however, can be, and has frequently been, averted, even after its local manifestation has taken place, and not only that, but it can be, and frequently has been completely eradicated by the very means Dr. Senn contemns, and this I assert without any fear of contradiction, and am willing to prove any day.

Furthermore, Dr. Senn makes the sweeping assertion that "internal medication"—by which I hope he includes dietetics and the strict observance of hygienic laws—is useless in inhibiting, arresting, or curing the disease." Now how does he know this? Is he aware that cancer has frequently been known to disappear without any treatment at all? How then is it impossible, if we can ascertain what the favorable conditions were, which tended to promote this happy result, and endeavor to produce these, that cancer can be not only arrested but cured? We certainly are quite unable to force nature in these circumstances, just as we might make a purgative act; but we are not without the means of assisting her, and I am thankful to say we are in the possession of such means, and that these means have proved successful not only in my experience, but in that of others also. Where would we be, I wonder, if every one were content to sit with their hands on their knees, looking before them into vacancy, and quietly give acquiescence to dogmas promulgated and insisted upon by men who have palpably given little or no attention to an analysis of the subject on which they express so emphatic an opinion? Is it because they have not succeeded, or possibly never tried to succeed, that it is, in their opinion, impossible for any one else to be successful? Dr. Senn replies to this question in a manner which on the face of it is contrary to common sense. Here is his reply: "The only rational and successful treatment of cancer *during its early stages*"—the italics are mine—"consists in the radical removing by excision every vestige of cancer tissue." Now, as Dr. Senn himself states as his opinion, and it is only an opinion, that "the real cause and nature of cancer are unknown," how can he satisfy himself that the cause does not remain after the removal of the local mischief. Indeed, we know it does remain, and I will challenge Dr. Senn or any other surgeon to point to a *single case of cancer* which has been operated upon in which recurrence has not taken place at the very seat of operation, and usually, in the first instance, in a tissue which was non-existent prior to the operation, viz., the cicatrix. As I have stated before, there is no *one* cause of cancer. It is due to a chain of circumstances, which have led up to a culminating point, which is a departure from normal cell metabolism, for which there have been substituted cannibal proclivities—and this has been brought about in the first instance by a vitiated condition of the blood having upset the physiological equilibrium of every organ of the body, but more especially that of the blood glands. Therefore the cause remains, even if one is successful in "removing every vestige of cancerous tissue," which is highly improbable, though the incision be ever so wide.

Dr. Senn proceeds to condemn the various caustics, clover, violet leaves, etc., and with him there I cordially agree. But afterwards, yes, immediately afterwards, he makes the statement which is extraordinary—after having previously affirmed that cancer is a parasitic disease—that "cancer is not a microbic disease." Is a microbe not a parasite then? He then proceeds to condemn X-rays, but he does not refer to radium as being of assistance as a local measure which other observers have pronounced it to be. Lastly, he asserts that "trypsin was of no importance," though I learn from another American paper he has never tried it. Whence then has he his authority?

15 Half Moon St., W.

FAT DIET IN THE TREATMENT OF WASTING DISEASE.

By Edward V. Murphy, M.D.,
Newport, R. I.

The important part played by fat in the treatment of wasting diseases is often overlooked by the general practitioner. In a case of pulmonary tuberculosis, probably the first thought is cod liver oil, either alone or in the form of an emulsion with other constructives added.

But this disease is not the only one in which a fat diet is to be adopted, and it is this fact that often escapes the attention of the attending physician. Particularly is this true in digestive troubles where the patient himself long before consulting a doctor has "dieted," which in many cases, is another term for starving himself. If, for instance, a certain article has caused him annoyance once during its digestion, that particular food is discarded without stopping to consider that many reasons might have caused the distress besides the article itself, such as physical or mental exhaustion, improper preparation of the material, or even the substance itself may not have been fresh. For this reason the home prescribed dieting often means the lack of proper nourishment, and when the patient finally comes into the hands of the physician, the functional derangement that at first prompted the "dieting" has disappeared and the emaciation is the only condition that needs attention. In this state nothing will give such rapid and satisfactory results ordinarily than a diet in which fats are given in excess, and the more common forms are cream, butter, olive oil and cod liver oil. This of course does not complete the list, as the fats of meats are to be considered as well as certain kinds of nuts.

The foods that contain the highest number of carbon atoms produce the greatest number of calories, and fats, as are well-known, possess the greatest of these atoms. Without going into the minute details it may be accepted that the ordinary adult requires about 2,500 calories to produce the required amount of energy to sustain life without any excessive loss of tissue, and since it is known that butter will give 837 calories per 100 gms., we can at once see the importance of this article of food in our diet list. Butter is 90% fat and of all the common varieties of food has the highest number of carbon atoms. Cheese contains 30% fat, but there are various untoward effects produced by this food and it cannot be taken in sufficient quantities to be regarded as an available article for the production of fat. The next most common fat containing food is cream, yet it has but 20% fat and yields 276 calories per 100 gms. At the same time it is highly to be recommended, but inferior to butter, and the latter article can be eaten with so many different foodstuffs that large quantities can be taken without nauseating the patient or upsetting the digestion, a condition that would soon be reached unless cream be taken cautiously. Eggs contain 12% of fat and give best results when taken as nearly raw as possible; they yield 165 calories per 100 gms. Olive oil and cod liver oil as is well known possess a high percentage of fats and the clinical results that are constantly being obtained from their use at once recommend them in the fat containing list. Among the common nuts that contain a very high percentage of fat may be mentioned English walnuts, filberts, peanuts and fresh chestnuts.

The chief source of fat that is found in the human body is from starches and sugars, but in a slight degree it may be that the fat taken as food is sometimes stored up as such.

The first food that is consumed to produce energy is fat and the other materials that are ingested, particularly starches, are turned into fats. Therefore it is clear if we take larger quantities of fat in our diet there is the source of energy to maintain the body at the proper equilibrium and leave the other foods for the building up of the tissues, whereas when our diet list lacks the fat the other articles must be consumed to maintain energy and there is nothing left from which to produce fat.

One fifth of the body weight may be lost before the stored up fat is exhausted, and it is this fact that makes the fat and oil diet indicated in such wasting diseases as tuberculosis and Glenard's disease. In the latter malady when the fatty cushions that surround some of the abdominal organs, notably the kidneys, have disappeared, there is a prolapse of these vicera and these organs cannot be expected to remain in their normal position even if the kidneys are stitched up, unless the patient be fed with the idea of regaining the lost fat, and in this disease especially, the diet should possess an excess of this food. As the accumulation of fat is increased by sleep and inactivity, excellent results are often obtained in Glenard's disease by a properly fitting belt and rest and forced feeding, having in mind the acquirement of fat. In this condition as well as other states in which there is pronounced emaciation the ingestion of a quarter of a pound of butter daily besides the regular diet gives good results. When divided among the different meals it is not difficult to add that amount of butter to the list without producing any repugnance to the article; bread, roasted potatoes and broiled meats can have added considerable butter, and yet only make the food more delectable.

Of the digestion and absorption of fats much more is now known than formerly. The important enzyme in this process is lipase of the pancreatic juice. It has the power of splitting the neutral oils that find their way into the intestines, into glycerin and fatty acids. Since fat globules were found in the villi of the small intestines it was believed that oil as such was absorbed, but it is now known that the splitting process above referred to is the manner of preparing the fat for absorption. Directly after this absorption the same enzyme, lipase, exerts a synthetic effect on the glycerin and fatty acid and reforms them into oil. As this ferment is found in the blood, muscles and mammary glands and elsewhere in the body, it is reasonable to believe that this process of analysis and synthesis is carried on in other places besides the alimentary canal, and the stored up fat is subject to this action until converted into energy. The action of lipase is enhanced, notably by the presence of bile. Although it splits up the fat alone it does it more rapidly when in a bile medium. It is now further believed that the emulsification of fats is not so much a preparation for absorption as such, but is to place the fats in such a condition that the lipase can act on it readily. As saponification and emulsification are conditions to which the oil must be brought before digestion, the process takes place in the intestines and therefore the oil makes its transit through the stomach unaltered.

Dr. Pratt, of Boston, in the free dispensary for tuberculosis, uses cottonseed oil in all cases where there is emaciation and the results he has obtained are very gratifying. The class of people he had to deal with were not above the ordinary order of intelligence, some of them being Russians who had recently come to this country wholly ignorant of our language, yet they followed the principle laid out by the physician so carefully, that even in advanced conditions of the disease they took on 12 to 15 pounds of flesh within a few months. The theory in the purchase of this oil was that it was cheaper to buy cottonseed oil outright than to purchase it in bottles or cans with olive oil stamps on them, yet being entirely innocent of that product.

The same idea has been followed at the dispensary at the Newport Hospital, and very good results have been obtained. Here what was supposed to be olive oil was used, and some cases that had been in camp for tubercular conditions did just as well at home where the instructions had been followed out rigidly. The patients were told to take the oil in tablespoonful doses after meals and also to incorporate it in the food as much as possible in the form of simple salads. In addition, of course, they were furnished with milk and eggs by the Newport Association for the Prevention and Control of Tuberculosis, as it was not to be believed that lost weight was to be regained by simply indulging in a diet rich in fats. The oils are adjuncts to substantial foods, because they produce fat more rapidly than in cases where they are not used.

It is not very difficult to add fats to the diet. For breakfast, fried bacon can be taken which makes a tasty article to be placed on the menu, besides this the cereals that require butter are to be recommended; shredded wheat biscuits, puffed rice or toast.

To the noonday meal some salad, such as lettuce in which oil may be used in the form of mayonnaise dressing. It is well also to cultivate a taste for the addition of olive oil in the preparation of sliced tomatoes or vegetables.

The evening meal may have for its oil constituent potato, chicken, or lobster salads. This with a generous addition of butter to the other articles will furnish the required fats.

"THE duration of the life of men may be considerably increased. It would be true progress to go back to the simple dishes of our ancestors. Progress would consist in simplifying many sides of the lives of civilized people."—*Metchnikoff.*

COMPRESSED AND RAREFIED AIR ILLNESS; CAISSON DISEASE OR BENDS—REPORT OF TWO CASES.

BY WILLIAM HENRY PORTER, M.D.

Professor of Pathology and General Medicine at the New York Post-Graduate Medical School and Hospital, Attending Physician to the New York Post-Graduate Hospital, etc., etc.

THE two patients upon whom these few remarks are based, were first seen at my clinic at the New York Post-Graduate Medical School and Hospital.

The first patient was a German aet., 20. He had a strong and robust appearance. Examined superficially no one would surmise that he was sick. His family history was good. He said, however, that he smoked and drank moderately. The second patient was an Italian aet., 20. His family history was good. He arrived in this country three years ago and had always been in good health. No history of venereal disease of any kind. Smokes one pack of cigarettes daily and drinks moderately.

The Italian has always been strong. He has worked for the past two and a half years as an ordinary shoveler. For the last six months has worked as a common laborer in the tunnel under the east river at 34th street. The atmospheric pressure in the caisson in which he has worked has been about 35 pounds to the square inch, which is a little less than the first patient was subjected to. Before entering and leaving the compressed air chamber it has been the custom to hold the men fifteen minutes in the "locking out" chamber. This patient has worked three hours, then rested for three hours, after which rest he again worked three more hours in the compressed air. While the other patient worked two hours, rested four and then worked two hours more. The one working four hours daily while the other worked six.

When our Italian patient began working in the compressed air he felt no discomfort, but soon developed a cough which has persisted and seems to keep on so long as he goes into the compressed air chamber. After working for two months in the caisson, he felt a pain in the epigastric region and this has persisted ever since. The pain as he expresses it, is burning in character. He has never had bleeding from the ears, nor from the nose, but since he has worked in the caisson he has from time to time expectorated blood. When he leaves the compressed air chamber an itchy feeling comes over him which lasts for about half an hour and disappears. When he leaves and when he enters the compressed air chamber he gets a buzzing of the ears which lasts about one hour.

Last Tuesday or January 8, 1907, he left his work feeling perfectly well. That same night he drank four glasses of beer and after an hour or so went to bed. Wednesday morning his face was swollen, and his head ached. There was a sense of great weakness, accompanied by severe cramps (as explained by himself) in the legs. The attacks of pain lasted for fifteen minutes at a time. The temperature was 102, pulse 100 and regular. The arterial tension was high. Bowels regular.

Auscultation of the heart gave every sign of a lack of muscle tone. The first sound was soft and incompletely heard. It gave the impression of an overworked heart. There was no sign of mechanical defects in the valves.

No signs could be discovered indicative of any abnormality in the pleura or lungs.

The liver appeared to be normal.

The urine so far as could be determined was about normal in quantity, but high colored. Specific gravity 1.018. Acid in reaction. It contained traces of indican slightly bile tinged. Also a slight amount of overproduced uric acid.

The first or our German patient said that he had always been accustomed to work in compressed air. For the past three months he has been employed in the construction of the tunnel under the East River at the Battery. During this period, he has when at work been under a pressure of forty pounds to the square inch. This is practically equivalent to three atmospheric pressures. Like all the other men employed at this tunnel, he has worked for two hours, then has rested for four hours in the open air, after which he worked for two hours more under the high pressure. Thus making four hours of work under pressure, every twenty-four hours.

When he began work three months ago, he had an attack which he described as the "bends." The symptoms as narrated by the patient were as follows: "A sort of severe attack of rheumatism coming on suddenly, the pains being most marked about the knees and in the lower extremities, but the pains were felt to some extent all over the body." The symptoms in this particular case came on rather suddenly just as he was coming out of the "interlocking chamber" into the ordinary atmospheric pressure. These symptoms lasted for about a week and then disappeared entirely, but returned again about the first of January. This time they have been more severe, so much so, that he has not been able to resume his work in the compressed air. It is quite possible that about the holiday time he indulged a little too freely in alcohol, hence the recurrence of the symptoms and their greater severity and persistence.

In this particular instance ringing in the ears and deafness was not a pronounced symptom. So far as could be determined neither patient has had rupture of the ear drum.

This patient had no epistaxis while at work in or upon coming out of the compressed air to the normal atmosphere. Yet at intervals when not at work he has from time to time had attacks of epistaxis. The respirations so far as could be ascertained have been normal.

The pulse beat when seen at my clinic was 100 and the vascular tension was unduly high.

The temperature of the patient when seen at the clinic was normal.

The skin in this case was apparently normal. There was no complaint of intense itching as is the case in many instances. In the other case there was slight itching.

The appetite in this case was exaggerated, not an unusual symptom in compressed air workers.

There was no dysphagia nor hemoptysis or hematemesis in this case.

This patient complained of great fatigue, which is always a marked feature in these cases. Such a symptom might be expected when we consider the marked tendency to a disturbance in the nutritive activity, involving as it does, especially the nervous system.

In this case there was no epigastric pain so marked and persistent in the other case, nor vomiting, which is a pronounced symptom in many cases.

In neither patient was there paralysis in any form.

There were no marked cerebal symptoms in either case as occasionally occurs when the meninges are deeply congested.

The characteristic symptom in this particular case was the pronounced fatigue or nervous exhaustion, with intense pains, neuralgic in character, which came on suddenly after coming out from the compressed air chamber to the normal atmospheric pressure. The pains were general in character, although more intense about the knees and in the lower extremities. To this particular train of symptoms the special name "bends" has been applied.

The macroscopic lesions found at the necropsy are a general congestion of all the visceral organs. This congestion is especially marked in the meninges and substance of the cerebro-spinal system. If death occurs when under the influence of the compressed air the congestion is in the form of an active hyperaemia, otherwise it is of the passive type. As death rarely occurs within the chamber, but some time after leaving, the passive type of congestion is more frequently seen at the necropsy. In many instances the passive congestion has largely disappeared before death occurs. In some instances the nervous tissue may be anemic, unduly soft, or the seat of numerous punctate hemorrhages. Occasionally there may be large hemorrhages. Similar hemorrhages may be found in all the visceral organs. In other instances there may be found a pronounced edematous condition of the cerebro-spinal system, which in itself may have been the compressing force within the bony canal that caused the death of the patient.

The minute pathology of the disease known as Compressed Air Illness, Caisson Disease, or Bends, consists chiefly, in changes that are effected, rather suddenly, in the circulatory apparatus as the result of subjecting the surface of the body to an undue high pressure and a too quick removal of this high pressure.

Remembering the common law governing the interchange of nutritive pabulum between the blood, and the cells and tissues in the perivascular spaces, which is that nutritive interchange is effected solely while the blood is in the arterial capillaries, it is easy to explain and to understand how the abnormal changes found at the necropsy are produced. It also, in a very large measure explains the symptoms and indicates the line of treatment. While exposed to the continued high atmospheric pressure, the blood vessels upon the surface of the body are in a marked degree emptied. When this occurs the congestion is especially pronounced in connection with the cerebro-spinal system and in and within the bony structures; the congestion being more marked as a rule in the spinal than in the cerebral portion of the nervous system. This tends to produce, primarily, an active hyperæmia of the nervous mechanism. At the same time it must be remembered that, according to the laws of physics, it is impossible to compress the surface blood vessels and thereby expand those in the deeper structures of the body, because the pressure on all the soft parts is equal throughout. If, on the other hand, the soft structures are incased in an unyielding bony wall, as is the case with the brain and spinal cord, the reverse is true. Therefore, something more than physical forces must be brought into play to account for the general surface pallor, and the associated visceral engorgement outside the cerebro-spinal canal. The increased atmospheric pressure at first compresses with equal force all the blood vessels in the soft structures outside the bony cavities. This drives the blood into the bones, the brain, and the spinal cord, and causes the primary and pronounced active hyperemia of these structures. This acute congestion of the nervous system causes an undue irritation of the spinal centers which preside over the contraction and expansion of the vascular walls. When this occurs the centrifugal impulses emanating in the spinal cord and distributed to the blood vessels, now, according to the well-known alternating physiological law which exists between the general circulatory system and that of the spleenic arcade, causes a pronounced contraction of the blood vessels oll over the surface of the body, while those of the abdominal cavity tend to expand. Hence the pallor of the surface of the body while in the compressed air chamber, and the marked congestion found in the spleen, liver, and kidneys at the necropsies of those who have died in the chamber or shortly after coming out. If the irritation of the spinal centers is still greater it may cause a contraction of both vascular systems. When this is the case, death speedily ensues. When the compression is removed all the blood vessels outside the bony canal tend to expand, this in turn draws the blood for the time being away from the spinal cord and its centers. Now the spinal centers are deprived of the requisite amount of blood to excite into action the vaso-constricting centers and the centrifugal impulses emanating therefrom, consequently the blood vessels outside the bony structure continue to expand and still further draw the blood away from the spinal system. This naturally decreases, or cuts off completely, the nutritive supply distributed to the spinal cord and its centers. The primary hyperemia does not produce a forceable contraction of the ultimate arterioles in the spinal cord and in this manner greatly augment the speed of the blood current through the arterial capillaries and thus cut down the time for nutritive interchange between the blood plasma and the tissues. It does produce an equivalent condition, in this respect, that while the ultimate arterioles are not contracted, the speed of the blood through them and the arterial capillaries is so great that there is not sufficient time for nutritive interchange to occur. For a perfect nutritive interchange between the blood plasma in the blood vessels, and the cells and tissues in the perivascular spaces, the ultimate arterioles must retain their normal power of contraction and expansion so that the speed of the blood in the arterial capillaries will rise and fall in accurate accord with the demand of the tissues in the perivascular spaces for nutrition. Therefore, anything that tends to destroy this occillating balance in the speed of the blood, interferes with nutrition. If the speed of the blood in the arterial capillaries is maintained at too high a rate of speed, for any reason, continuously, nutrition is impaired. In this manner the disturbance in the nutrition of the spinal cord, in this class of cases, is explained. In some instances the deterioration in nutrition is so great that actual structural changes are produced in the nerve elements; the destruction being so great in some instances, that careful observers have occasionally mistaken the process for one that is inflammatory in nature, and have described the lesion of the cord as a myelitis. In some very rare instances, the process may be inflammatory in nature, but this is the exception and not the rule. If for any reason the change is made too quickly from the high to the low or atmospheric pressure, sufficient time is not allowed for an adjustment of the circulatory balance. When this is the case the blood in a large measure, suddenly, leaves the cerebro-spinal system, the bones, and all the visceral organs, and returns to the surface of the body in unduly large amounts. This produces, at first, an anemic condition, to be followed a little later by a setting back of the blood into the arterial capillaries, from the intermediate and venous capillaries.

This produces one of the worst forms of passive congestion and still further interrupts nutritive interchange. This excites a state of almost complete stasis in the capillary channels, which causes a decided interruption in the nutritive interchange, all of which occurs at a time when an increase in the nutritive interchange is positively needed to make good the loss in nutrition sustained while confined in the high pressure chamber. Depending now, upon the amount of disturbance in the nutritive activity, the degree and variety of the lesion developed is governed and produced. If the stasis is quickly produced and complete in character, the lesion will be pronounced, and the symptoms will be suddenly developed and severe in nature. If the disturbance in the circulation is less intense and comes on more gradually, the symptoms will be developed later and will be less severe in character. On account of the lesions being developed as the result of a disturbance in nutrition rather than as an inflammatory process, the general tendency is to recovery. Occasionally death speedily ensues where the symptoms are intense from the very beginning.

Another theory as to the causation of the lesions and symptoms in caisson disease is that recently elucidated by Leonard Hall and Greenwood. They assume, as others have before them, that the lesions and symptoms in caisson disease are due to a retention of nitrogen gas in the system. In substantiation of this theory they cite experiments on animals which tend to prove that every cubic centimeter of blood or tissue in the body takes up at the normal body temperature about one cubic centimeter of nitrogen from the air under one atmospheric pressure, two cubic centimeters under two atmospheres, three cubic centimeters under three atmospheres, and so on up with each added atmosphere. If the animal is suddenly restored to an ordinary pressure, or is quickly decompressed, they found, as did Bucquoy, who was one of the pioneers in this line of experimental work, that the sudden fall in pressure almost instantly set free the excess of gas or gases held in solution when under a high atmospheric pressure, the general assumption being that under these circumstances the gas so liberated was nitrogen. With this sudden liberation of nitrogen gas, it is claimed that the gas bubbles in the blood form or act like emboli of a more solid consistency; that these gas emboli lodge by preference in the small capillary blood vessels of the nervous tissue, and especially so in that portion constituting the spinal cord. The evidence adduced to sustain this theory is the fact that the artisan rarely suffers any unpleasant symptoms when the change from compressed to open air takes place gradually, and especially if the change is made in conjunction with a slow fall in pressure. Further than this, the most effectual treatment for the more severe symptoms is a recompression of the sufferer.

On the other hand, one would naturally suppose that the sudden liberation of free nitrogen gas into the blood, if the quantity were at all large, would act the same as when a considerable amount of gas is injected into a vein. Under these circumstances it is well known that the gas passes on to the right heart. When it reaches the cavity of the right ventricle it tends to make the blood so frothy that the ventricle cannot pump the blood through the capillary blood vessels of the lungs. If this is not the case, it occludes the capillaries in the lungs. In either case the animal dies from asphyxiation. As no such symptoms have been described in connection with caisson disease, there is every reason to believe that this is not the method by which the liberated gas does the damage. It has further been shown experimentally that quite large quantities of air can be injected directly into the veins without any ill effects, provided it is introduced in small amounts. Therefore, it would seem that something more than the liberation of the nitrogen gas, previously held in solution, is required to fully explain the lesions and symptoms met with in connection with caisson disease.

The condensation and subsequent liberation of the nitrogen gas and the formation of air emboli are no more in keeping with the well-known laws of the chemistry and physiology of body metabolism and its disturbances than is the disturbed vascular balance and its changes as already described. Both the nitrogen gas embolism and the removal of the equitable circulatory balance can be made to disturb the nutritive activity of the nervous tissues and in some instances they might be made to give rise to serious degenerative changes in the tissues of the spinal cord. They can be made also to account for the disturbance in function and to explain the symptoms. Possibly both may play a part in the production of the lesions and symptoms, but the disturbance in the circulatory balance alone appears to us the more logical explanation.

Hall and Greenwood have further proved by their experimental work that the body can, with proper precautions, be made to withstand much greater compression than has hitherto been recorded, and this without injury to any of the structures or functions. They think it possible to make a depth of 250 feet. During these severe compressions they found it advisable to keep the muscles and joints of the body in moderate motion. This fact alone points to a disturbance in the circulatory balance as a very essential feature in connection with the production of this class of lesions and symptoms.

A word at this point in reference to the opposite condition, or the effect of unduly rarefied air, may also be of interest. Especially is this true in view of the frequent balloon ascents that are now being made.

Paul Bert found, when experimenting upon animals, that there was a diminished production of carbon dioxid both when an animal was subjected to a considerable high atmosphere, or in other words to a low atmospheric pressure. Lowy, however, found no alteration in the respiratory exchange in man until the air pressure fell below 300 mm. At this point and below there was an increasing discharge of carbon dioxid, but no corresponding increase in the intake of oxygen. Observations upon animals and on man in connection with balloon ascents yield about the same results. Air discomfort is felt as the pressure decreases. The discomfort begins at about one-half an atmospheric pressure; the symptoms become intense at 250 mm. Convulsions, insensibility and death supervene. During the balloon ascent of Zenith to the height of 8600 meters (28,215 feet), Siven and Croce-Spinelli died, Tissandier became unconscious, but recovered during the descent. The pressure at this point was estimated at 250 mm. and the tension of the oxygen to be 52 mm. The symptoms in these cases are attributed to a decrease in the tension of the oxygen in the air, for if the percentage of the oxygen be raised to meet the lowered atmospheric pressure it can be easily borne.

There have been many theories advanced to explain the condition known as "mountain" or "balloon sickness." Jourdanett maintains that it is due to a condition of anoxyhemia, or want of sufficient oxygen in the blood; the contention being that the absorption of oxygen, at a low atmospheric pressure, is insufficient for the needs of the tissues of a man engaged in the exertion of climbing. To this objection has been made, the claim being that the explanation is inadequate, because there appears to be no decrease in the amount of oxygen in the blood of dogs, which were subjected by Fränkel and Geppert to a reduced pressure equal to that of an altitude of 16,000 feet (5,931 meters). It is claimed that this may be so during rest, but that on exertion there is a slower rate of absorption and consequently there results a deficiency of oxygen in the blood. On the other hand, it is claimed that the organism accommodates, not for a condition of rest, but for exertion also, having as it were a reserve store of energy. On the other hand, it is a well-known fact that a man with marked anemia, when at rest, absorbs as much oxygen and produces as much carbon dioxid as a healthy man at rest; but, upon exertion, the anemic subject at once becomes breathless, which is not the case with the normal individual. This is because the anemic man has no reserve to draw upon during the greatly augmented metabolism which accompanies muscular work.

In this connection the more recent observations of Guillamard and Moorg, who spent five days on 'Mont Blanc, are exceedingly interesting, and are as follows: They ascended to a height of 4,910 meters and remained for three days at an altitude of 3,050 meters (15,682 and 9,912 feet, respectively). The mean atmospheric pressure was 410 millimeters, the air was very dry, the temperature was 0° C. and the light was brilliant. The resulting anoxyhemia occasioned a slight diminution of intraorganic combinations shown by the formation of an abnormal quantity of toxic alkaloids. These substances reacting on the kidney diminished the water, azotized matters, and salines of the urine, and their retention produced auto-intoxication, the symptoms of which constitute the *mal de montagne*. Muscular fatigue, cardiac insufficiency, and renal or hepatic troubles, by augmenting the production of the toxins or by preventing their elimination, hasten the appearance and intensify the symptoms of mountain sickness. The economy reacts against the anoxyhemia by an active new formation of blood corpuscles and against the intoxication by a urinary discharge comparable to the crisis of infectious diseases. It should therefore be borne in mind that subjects in whom the functions of elimination are impaired cannot without serious risk of uremia be recommended to sojourn at great altitudes. A. Aggazzotti, of Turin, has carried the subject of the body to rarefaction to a much greater extent by placing himself in a properly constructed receptacle and exhausting the air till the barometric pressure fell to 122 millimeters, corresponding to an altitude of 14,582 meters, or 48,608 feet. A monkey, indeed, was exposed to air so rarefied that it was reduced to that of the atmosphere at a height of 53,626 feet without harm—results that are remarkable when it is remembered that in 1875 Cricl-Spinellf and Sivel were killed in a balloon ascent which did not exceed 28,000 feet, and Suring and Berson in 1901 both lost consciousness though freely supplied with oxygen at a height of 31,500 feet. A very important point was discovered by Aggazzotti that, namely, the addition of carbon dioxid in the proportion of from 7 to 12 per cent. or more to the oxygen inhaled greatly aided its action as a revivifying agent, and this is in accordance with the observations of Bohr showing the important influence that the tension of the carbon dioxid in the blood exercises on the combination of oxygen with the hemoglobin.

The treatment is both preventive and, socalled, curative. The former is chiefly hygienic and dietetic. The first essential is to have the high pressure chamber well supplied with a continuous supply of fresh and cool air. This latter point being very essential. The foul air of the chamber should be as speedily removed. These are the most important prophylactic measures so far as the caisson is concerned.

Great care should be exercised in the selection of workmen for this kind of work. Only those who are very temperate in these habits should be chosen. Absolute abstainers from alcohol being less liable to suffer injurious effects than those who are even moderate drinkers; while the free use of alcoholic beverages should absolutely rule out the artisan for this kind of work.

Special attention should be paid to the heart, and only those having a strong muscle tone and freely elastic vessels should be allowed to work in these high pressure chambers. In fact only those that are absolutely perfect in every respect should be selected for this kind of work.

Plenty of time should be taken to pass the artisan from the atmospheric to the high pressure chamber, or through the "locking-out chamber" and vice versa. The greatest danger is in passing back from the high pressure atmosphere to the ordinary condition, hence, plenty of time must be allowed for the backward passage through the "locking-out" chamber. The rule laid down by

Professor Andrew H. Smith at the time of the building of the first Brooklyn Bridge, is to allow five minutes in the "locking-out" chamber for each atmospheric pressure that the workman is subjected to. Even this arbitrary rule, while it may hold good in most instances, must be modified in a measure to suit individual cases, for in some, the circulation will readjust itself much more quickly than is the case in other workers.

Another important point in the prevention of this disease and its symptoms, is to have the men raised by elevators from the bottom of the shafts in which they have been at work, instead of compelling them to climb up ladders to reach the surface, just after they have been released from the high pressure atmosphere. This point was especially noted in the building of the St. Louis Bridge, in which thirteen of the men who were employed in the building of the east pier, which was sunk 127 feet below high water mark, died; but in building the east abutment which was sunk 132 feet, only one man died. In the latter case the workmen were lifted to the surface by an elevator, while in the former they were compelled to climb to the surface by a ladder. Climbing up the ladder naturally throws increased work upon the weakened spinal centers at a time when they ought to be rested, hence the larger death rate in the former instance.

Immediately upon reaching the normal atmospheric pressure, the workmen should rest, take a hot drink of strong coffee, tea, or some concentrated meat broth. Dr. Jeminet recommends a draught of a strong alcoholic stimulant, with ginger. All are used for the same purpose to augment and regulate the disturbed circulatory balance and reëstablish as speedily as possible the depressed nutritive activity of the nervous system. A change of clothing should be made at once, replacing the damp working clothes by others that are warm and dry.

The men must be taught how to inflate the ears, and be fully impressed with the necessity for following the hygienic rules laid down as a guide for those who are to work under these adverse conditions.

The diet of the men should be a well regulated mixed one. A diet that is abundantly supplied with animal food and to a less degree with the vegetable class. At the same time the quantity taken should be kept well within the oxygenating capacity of the system.

When all these directions are followed accurately men can work in exceedingly high pressure chambers with comparatively little liability to severe injury, but the slightest neglect of any of these rules is sure to be followed by more or less serious consequences.

When the atmospheric pressure is very high, the time spent in the high pressure chamber must be less than when the pressure is lower, and the time in the "locking-out" process must be longer.

The active treatment when pronounced symptoms have developed consists in the administration of morphine to relieve the pain. This is accomplished largely on account of the power that the morphine possesses to stimulate a depressed condition of the spinal centers, no matter how produced. The morphine also stimulates the depressed vasomotor centers in the medulla oblongata, and thus brings about a more uniform and stronger action on the part of the heart. This tends to adjust more rapidly the disturbed circulatory balance, and secondarily augments nutritive activity. Ergot has been highly recommended by Dr. Andrew H. Smith in conjunction with the morphine for the relief of the pain. The belladonna group may also be of service in aiding the system to adjust the circulatory balance. Theoretically the adrenalin preparations ought to be of service in assisting nature to reëstablish the circulatory balance. Hot applications have proved very efficacious in the relief of pain in many instances. Bandaging the extremities tightly often relieves the pain. Recompression of the body, carried to a moderate degree, often relieves the pain very decidedly. This fact being well known, many contractors when using caissons, have built upon the surface of the ground near where such work is going on, small chambers for the express purpose of recompressing the men who have any of the symptoms of compressed air illness or the bends. These have proved very efficacious in many instances.

If the pulse is full and the heart's action very labored venesection in some instances, especially in those that are very full blooded, has been followed by good results. Unless the subject is full blooded internal bleeding with the vaso-motor depressants is to be preferred.

Inhalation of oxygen has been suggested by some upon the theory that a considerable amount of carbon dioxide gas has been retained within the system that should have been excreted. Clinical experience has not established the efficacy of oxygen inhalations.

Electricity has been tried, but without success.

The main thing to be accomplished in the management of this class of cases, judging by our knowledge of physiology and the methods by which the lesions and symptoms are developed, is to reëstablish as soon as possible the circulatory balance. This accomplished we produce a normal distribution of the nutritive pabulum to those parts, in which the nutritive interchange has been partially or completely interrupted, as the result of the high atmospheric pressure applied to the surface of the body and a too quick withdrawal of this abnormal pressure. In so far as this is accomplished, no matter how brought about, will depend the success of the plan of treatment adopted.

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DIET AS A THERAPEUTIC MEASURE IN CERTAIN EYE DISEASES.

By A. Edward Davis, A.M., M.D.,

Professor of Diseases of the Eye, New York Post-Graduate Medical School; President New York Ophthalmological Society, etc.

What I shall have to say in regard to diet as a therapeutic measure in certain diseases of the eye shall be entirely of a practical nature, without attempt at a scientific exposition of the subject.

In young children especially, and those reaching puberty, there are a number of diseases of the eye in the treatment of which diet and hygienic surroundings play the most important role, even more important than that of medicine. This altogether important fact should ever be remembered by the specialist and family physician, and should be impressed upon the mind of parents and guardians. So important is this factor of diet in certain diseases of the eye, that often without proper diet, no medicinal treatment will avail a cure; while with a correct diet and suitable hygienic surroundings a cure may and frequently is effected, even without the use of medicines.

So that, of the two methods—suitable diet and hygienic surroundings, without medicines; or medicines without proper diet and surroundings, the former is much to be preferred, provided one should be compelled to take choice between the alternatives.

PHLYCTENULAR CONJUNCTIVITIS AND KERATITIS:

This disease is sometimes called *Lymphatic conjunctivitis,* and is characterized by small nodules which appear just beneath the surface of the ocular conjunctiva or the corneal epithelium, which nodules later ulcerate and leave an open ulcer. Usually light is very painful to these little patients, causing them to keep the eyes closed or the patient to remain in the dark.

It occurs most frequently in young children who have been poorly or improperly fed and who have had unhygienic surroundings, *i. e.,* in crowded city tenements. But occasionally it is present in children who have had all the advantages of life. A strumous or tubercular diathesis is present in almost every case.

The most essential factor in the treatment of phlyctenular conjunctivitis and keratitis is regulating the diet; the next most important step in the treatment is (where it is possible) to have the patient remain in the open air a number of hours each day and to have the living and sleeping apartments properly ventilated. The medicinal part of the treatment is the least important, and in fact, could be dispensed with in most cases, in a great measure, could the correct diet and sanitary surroundings be had. Unfortunately, in the very nature of things, the poor cannot obtain the best of food and air, and medicines must be employed to assist in and to hasten a cure.

The diet in these cases should be simple, wholesome and nutritious, such as plenty of fresh milk, cream (if it can be afforded), eggs, bread and butter, fish, fresh meat once a day at least, and twice a day if fish and eggs have not been given. Fresh vegetables of all kinds should be allowed. Sweets of all descriptions, candies, cakes, pies, pastries of all kinds, tea, coffee, etc., should be excluded from the diet for at least a week or ten days; after which time, sago or tapioca pudding or stewed prunes may be added, also, in a limited quantity, ripe fruit.

Sweets seem to aggravate the trouble, and for that reason are withheld from the diet for a time at least; for most of these patients have been too freely fed on such food.

It will be noticed that we recommend *fresh* milk in these cases, and not condensed milk, which latter is so often given to children of the poorer classes; and there is good reason for this recommendation. Fresh milk contains much less sugar than the condensed. Even the "plain" condensed milk contains in its solid ingredients as much as forty per cent. of sugar; and in others cane sugar is added to help preserve it, up to as high as 75 per cent. of its solid ingredients. For this reason condensed milk is not a good food to recommend in such cases as are now under discussion.

As Dr. W. Gilman Thompson* says: "Condensed milk is largely used for the nourishment of infants, especially among the poorer classes, they thrive upon it for a time occasionally even better than on raw (fresh) milk, and it makes them fat, owing to the extra sugar it contains. It does not constipate, and may be even slightly laxative. But although such babies may appear robust, their flesh is not firm, they develop poorly, are unable to resist diseases, and become rachitic."

The proper preparation of the food is very important also if we are to get the best results in these cases. Meats should be well cooked; vegetables, cereals and *all starchy* foods should be *thoroughly* cooked; because uncooked or half cooked starchy foods are very hard to digest. Raw, or half raw, starch quickly ferments in the stomach and intestines, causing indigestion; while starchy foods which are thoroughly cooked are quickly converted into sugar and readily assimilated.

This is a very important point to remember in preparing food for small children.

It may be stated incidentally that the

***Practical Dietetics,* Third Edition, page 95.

medicinal treatment in this class of cases chiefly consists in giving tonics, cod-liver oil, etc., and locally using hot fomentations, atropin sulphate, the yellow oxide of mercury ointment, etc., according to the exigencies of the individual case.

In phylctenular keratitis and conjunctivitis, there is a marked tendency to recurrence, especially in the spring of the year, after children have been cooped in the house. The best way of preventing or mitigating these attacks, if they do recur, is by keeping the little patients on a suitable and wholesome diet, for dieting is just as effective in preventing recurrences as it is in assisting in a cure.

We see, therefore, that diet, the proper diet, is a very important factor in bringing about a cure and in preventing recurrence in this disease. And because of the fact that a large percentage of the poor children who are brought to our eye clinics are sufferers from this disease, I have laid much stress upon the method of its treatment and prevention.

BLEPHARITIS MARGINALIS.

This disease is characterized by redness of the edges of the eyelids, matting together of the eyelashes with dried pus or scales, or by falling out of the eyelashes in severe and chronic cases. This disease must not be confounded with trachoma or "granulated" eyelids, as they are quite distinct diseases.

Blepharitis marginalis, like phlyctenular conjunctivitis, occurs most frequently in children who are poorly nourished and of a strumous, tubercular or rachitic diathesis. Occasionally, however, redness of the edges of the eyelids is due to astigmatism, and is entirely relieved by fitting the patient with glasses. The great majority of these cases have an underlying constitutional cause, and the treatment must be directed accordingly. Dieting forms as important a factor in the treatment of these cases as it does in phlyctenular conjunctivitis. Sweets and pastries of all kinds must be limited, and a simple, plain, nutritious diet instituted, exactly similar to that given in phlyctenular conjunctivitis. In rachitic subjects, especially those who are unable to drink fresh milk on account of the casein, and where an abundance of food rich in albumen and fat should be given, raw meat juice may be given.

Alfred Croften, in his Treatise on "Clinical Therapeutics" recommends the following:—Take one part of cold water to four parts of steak finely chopped up, allow to stand for half an hour in the cold, then express through a cloth or a meat press. This is very rich in albumens and extractives, and may be given in the milk deprived of its casein. One and one-half to three ounces of this can be given every twenty-four hours. It should be made fresh each day and kept in a cool place, as it quickly "spoils."

Of course proper hygienic surroundings are very desirable in the treatment of these cases.

EXOPHTHALMIC GOITRE.

This is a disease accompanied as a rule by prominence of the eyes, swelling of the thyroid gland in the neck, a rapid heart and marked nervousness on the part of the patient. Unfortunately, it is not readily amenable to treatment. Diet, combined with rest, plays no inconsiderable role in the treatment of this disease. Crafton* remarks that, "There is much controversy in regard to the proper diet. Many clinicians recommend a diet consisting largely of vegetable, cereals, fruit and milk, with the minimum of meat and eggs." "Personally," he says, "I have seen better results from an abundant meat and egg diet combined with the above."

My own experience in the treatment and diet of these cases of exophthalmic goitre is identical with that of Crafton's; they have invariably done better with a meat, egg and milk diet, in addition to the fruits, vegetables and cereals. Rest is a very important element in the treatment of these cases, especially where the patients are very weak and nervous.

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*Clinical Therapeutics, page 905.

There are some other diseases of the eye, as *Albuminuric retinitis,* and *Diabetic retinitis,* dependent upon grave constitutional disorders (Bright's disease and Diabetes), in which dieting, directed towards the cure of the constitutional malady, plays the most important part in the treatment. Local treatment in these diseases, albuminuric and diabetes retinitis, is of but little consequence, the main benefit being derived from treatment of the general disease upon which they are dependent and secondary to. And in such cases, as all of us know, dieting, proper hygienic surroundings and climate, constitute the sheet anchor of treatment. All of which has been so fully given in all the text books and in current medical literature that I shall not attempt it here.

There are other eye diseases in which diet forms a more or less important factor in the treatment, but space forbids their mention in this brief article.

58 West 37th Street.

SEXUAL EDUCATION.

By H. C. Buck, M.D.,
Friars Point, Miss.

To one that notes the trend of human affairs and the spirit of reform and advancement that is gaining ground each day, it is certainly very gratifying to note that the subject of the proper education of the boy and girl sexually is occupying the attention of very many prominent members of the medical profession, as well as that of moral and Christian men and women in other walks in life. The question is, shall the boys and girls be taught the nature and functions of their sexual organs by parents, or those properly related, or shall they continue to grow up in ignorance of these matters or, if knowledge is obtained, get it from vicious sources and surroundings that are but too often the first step in a life of shame and misery? A writer of ancient history says, "In ancient Germany boys and girls bathed together naked, even when fifteen years of age, and were not ashamed." Such a state of affairs may have existed in *ancient* Germany, I doubt if the same can be said of *modern* Germany, and I feel sure if "Young America" were so situated, bathing would be a matter of secondary consideration, if considered at all. This is evident to all who read. Dr. Wm. Lee Howard, J.A.M.A., in an article "Protection of the Innocents," mentions four cases of pregnancy in girls ranging in age from fourteen to seventeen years. A writer says, "Innocence and ignorance in regard to vice is no safeguard to a young man or woman in this age when it is so evident on every hand, and no fond parent need flatter himself that his pure girl or boy will not sooner or later become subjected to improper conversation and influences." In Dr. Howard's article mentioned above, he says: "As puberty silently and insidiously arouses the girl to introspection, as vague and sometimes uncontrollable sexual desire forces her along a trail of autoerotic queries, she seeks in vain for truths which she scarce dares own to herself that she was conscious of or understood. Innocent of any wrong feeling, her soft, sweet and womanly emotions are ignored by her mother, her teacher and her married sisters, and either through harmful floundering in her development or more often through the baneful tales of a sexual neurotic, she learns that every living man and beast is the product of sexual gratification. This knowledge coming to her through muddy and contaminated channels, cannot but defile her thoughts, and she goes out into the world without realizing the great truth that *sexual* gratification is not *sensual* gratification." The question has been asked, "Does not knowledge of the nature and functions of the sexual organs tend toward making a girl less modest, or is not such knowledge a shock to her modesty?" I claim this depends wholly upon the source of such knowledge and the manner in which it is obtained. A writer on this subject says a mother told him that when her daughter asked her questions she answered them in the spirit that such instructions should be given; he says, "This girl, after receiving a straightforward answer from her mother, kissed her and said, mother, I am part of you." Who can say this girl was injured by this knowledge obtained from such a source; did not this mother in thus instructing her daughter erect around her a "stone wall" of protection, for what lessons or impressions are more lasting or more beneficial to man or woman than are those received from mother? The very word *mother* seems to carry with it a halo of love and protection. Again Dr. Howard says: "There are thousands of girls in the upper and middle classes who, while not innocent, are ignorant of the primal laws of nature, many have tried to get the information their adolescent longings crave, many have striven to seek out the mystery after having been snubbed or denied by their mother; if the opportune moment arrives, and it generally does, the girl falls into the salacious seductiveness of some vicious-minded woman, the seeds of false sexual education are sown, and their spumy growth forever crowds out the tender tie between mother and daughter." Kraft-Ebing in his work, "Psycopathia Sexualis," gives very many cases illustrating the different kind of sexual pervert, and in the history of a large percentage of these the beginning is traced to the tender years of childhood, almost babyhood, where the boy or girl first learned sexuality under the tutorage of the nurse girl; occasionally the teacher was a "lady" of rank and wealth, in nearly every case the tutor was a female, and whoever was the teacher, the seed was sown and a life ruined. That the maternal instinct, or the feeling of motherhood is a natural attribute of a girl and is born in them, is evidenced by the care and maternal love the little mother bestows on her doll. Why should not this feeling be explained to the girl, and she be taught the beauty and grave responsibilities of motherhood, while she is at the same time impressed with the beauty and importance of virtue and chastity, as well as instructed and warned regarding the misery and shame of those who lose these beautiful characteristics. We all know the question of sexual matters is looked upon by most men and women as being "unclean," and one that should not be discussed, hence nearly all mothers avoid the subject and allow their children, especially their girls, to grow to manhood and womanhood in absolute ignorance of their sexual nature, at least as far as any information they give them is concerned, and yet there are very few parents that do not recognize the necessity and importance of instructing their children regarding the functions of the bowels and bladder. Is it not fully as important to instruct them in the nature and functions of their sexual organs? The knowledge of the one affects their physical well-being alone, the knowledge of the other affects the mental, moral and physical well-being, and may save them a life of shame and misery. While we teach them along sexual lines, we can at the same time teach them the necessity, as well as the beauty and holiness of modesty, virtue and chastity. The crowning work of the great Creator is a modest, chaste woman. A writer says, "to leave a child to find out the secrets of his (or her) sexual nature unaided is the gravest mistake."

Truly "as the twig is bent, so will grow the tree."

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THE MEDICAL AND SURGICAL KNOWLEDGE OF SHAKSPERE*

with explanatory comments by JOHN W. WAINWRIGHT, M.D.

(*Continued from page* 92.)

SHAKSPERE IN MEDICINE.

Mandragora as elsewhere stated was regarded as a most powerful narcotic and anesthetic. It was given to condemned criminals before their execution to lessen their mental distress, but from our present knowledge of this drug it could not have produced the effects described by Friar Lawrence. However, we must make a certain allowance for poetic license, and stand amazed at so complete and accurate a description of drug narcosis.

It has occurred to me that the condition of Juliet was brought about through hypnosis or suggestion. We know that a condition of catalepsy can be produced through hypnosis and that this state could exist for a considerable time without injury to the subject. This was probably what was resorted to by the good Friar. Men of his class and calling were well versed in occult and other sciences, in fact but that they were more or less conversant with science and thus able to pass their knowledge to their successors we would have lost much of what we now know of ancient science, art and literature, during the medieval or dark ages when it was only the church that was able to preserve this knowledge.

Romeo. I do remember an apothecary,—
And hereabout he dwells,—whom late I noted
In tatter'd weeds, with overwhelming brows,
Culling his simples; meagre were his looks,
Sharp misery had worn him to the bones:
And in his needy shop a tortoise hung,
An Alligator stuff'd, and other skins
Of ill-shap'd fishes; and about his shelves
A beggarly account of empty boxes,
Green earthen pots, bladders, and musty seeds,
Remnants of packthread, and old cakes of roses,
Were thinly scattered to make up a show.
Noting this penury, to myself I said—
An if a man did need a poison now,
Whose sale is present death in Mantua,
Here lives a caitiff wretch would sell it him.
O, this same thought did but forerun my need;
And this same needy man must sell it me.
As I remember, this should be the house;
Being holiday, the beggar's shop is shut,—
What, ho! apothecary!
Apothecary. Who calls so loud?

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SHAKSPERE IN MEDICINE.

Romeo. Come, hither, man.—I see that thou art poor;
Hold, there is forty ducats: let me have
A dram of poison: such soon-speeding gear
As will dispose itself through all the veins,
That the life-weary taker may fall dead,
And that the trunk may be discharg'd of breath
As violently, as hasty powder fir'd
Doth hurry from the fatal cannon's womb.
Apothecary. Such mortal drugs I have; but Mantua's law
Is death to any he that utters them.
Romeo. Art thou so bare and full of wretchedness,
And fear'st to die? Famine is in thy cheeks,
Need and oppression stareth in thine eyes,
Upon thy back hangs ragged misery;
The world is not thy friend, nor the world's law;
The world affords no law to make thee rich;
Then be not poor, but break it, and take this.
Apothecary. My poverty, but not my will, consents.
Romeo. I pay thy poverty, and not thy will.
Apothecary. Put this in any liquid thing you will,
And drink it off; and, if you had the strength
Of twenty men, it would despatch you straight.
Romeo. There is thy gold; worse poison to men's souls,
Doing more murther in this loathsome world,
Than these poor compounds that thou mayst not sell:
I sell thee poison, thou hast sold me none.
Farewell; buy food, and get thyself in flesh.
Come, cordial, and not poison; go with me
To Juliet's grave, for there I must use thee.
—*Romeo and Juliet, Act V., Sc. 1.*

This could have been one or more of many drugs. It was probably aconite.

Shakspere has given us much of his knowledge of pharmacy, in Romeo and Juliet. Romeo's description of the apothecary is familiar to all. "A beggarly account of empty boxes" is still much in evidence in the drug store. As we advance in hygienic and sanitary knowledge the necessity for drugs becomes less. Were it not for the cigar case, the soda fountain, the toilet goods and other accessories to the drug store, there would be fewer stores.

Romeo. O, true apothecary!
Thy drugs are quick.—Thus with a kiss I die.
—*Romeo and Juliet, Act V., Sc. 3.*

SHAKSPERE IN MEDICINE.

Ghost. With juice of cursed hebenon,
——————: whose effect
Holds such an enmity with blood of man
That, swift as quicksilver, it courses through
The natural gates and alleys of the body;
And, with a sudden vigour, it dost posset
And curd, like aigre* droppings into milk,
The thin and wholesome blood:————
—*Hamlet, Act I., Sc. 5.*

Hebenon is here a word of doubtful meaning. It probably refers to henbane or hyoscyamus niger. The quarto editions of Shakspere have it hebona. The folio which I prefer to follow, hebenon. Henbane is a poisonous plant especially destructive to domestic fowls; hence this name henbane. It does not produce leprous symptoms as detailed by the Ghost, but the law of signatures—i.e., some outward sign appearing on plants, minerals and other objects, superstitiously believed in ancient times to indicate a medicinal quality, as for instance, the yellow color of certain flowers was believed to show their efficacy in jaundice—prevailed in Shakspere's time, and the leprous effects may have been founded on the clammy appearance of the plant.

Dodoeus decribed a species of yew as being "altogether venomous and against man's nature. Such as do but slepe under the shadow thereof become sicke, and sometimes they die."

Henbane juice was used by the Gauls to poison their arrows.

Laertes. And, for that purpose, I'll anoint my sword.
I bought an unction of a mountebank,
So mortal, that but dip a knife in it,
Where it draws blood, no cataplasm so rare,
Collected from all simples that have virtue
Under the moon, can save the thing from death,
That is but scratch'd withal: I'll touch my point
With this contagion; that, if I gall him slightly,
It may be death.
—*Hamlet, Act IV., Sc. 7.*

Certain alkaloids were used, among them curare, by the South American natives to anoint their arrow points when at war with their enemies. One wounded by these arrows was almost sure to die within a few hours. Blyth states in his work on poisons that the early savages discovered that weapons soiled with the blood of former victims made wounds fatal. From these observations it was only a step to experiment with plants, etc., as a result the juices of several plants were found to cause fatal wounds.

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*Acid.

ANATOMY.

PIA MATER.

Clown. Thou hast spoken for us, Madonna, as if thy eldest son should be a fool; whose skull Jove cram with brains, for here he comes; one of thy kin has a most weak pia mater.

—Twelfth Night, Act I., Sc. 5.

Pia-mater used in this connection refers to its instrumentality in the intellectual development of the individual. Pia-mater is also referred to in Troilus and Cressida, Act II., Sc. 1.

ARTERY.

Hamlet. My fate cries out
And makes each petty artery in this body—
As hardy as the Nemean lion's nerve.

—Hamlet, Act. I., Sc. 4.

HAIR.

Queen. Your bedded hair, like life in excrements,
Starts up and stands on end,—

—Hamlet, Act III., Sc. 4.

Antipholus of S. Why is time such a niggard of hair, being, as it is, so plentiful an excrement?

—Comedy of Errors, Act II., Sc. 2.

Autolycus. Let me pocket up my pedler's excrement,
(Takes off his false beard.)

—Winter's Tale, Act IV., Sc. 3.

Armado. ————; and with his royal finger, thus, dally with my excrement, with my mustachio.

—Love's Labour Lost, Act V., Sc. 1.

SHAKSPERE IN MEDICINE.

Bassanio. And these assume but valour's excrement,
To render them redoubted.
—*Merchant of Venice, Act III., Sc. 2.*

The word excrement is frequently used by Shakspere to describe the hair which is properly an excrementitious substance. Excrement is defined as an appendage or excrescence.

LIVER.

Sir Toby. For Andrew, if he were opened, and you find so much blood in his liver as will clog the foot of a flea, I'll eat the rest of the anatomy.
—*Twelfth Night, Act III., Sc. 2.*

Sir Toby's estimate of Sir Andrew Aguecheek's courage was in no way exaggerated as the meeting between him and Viola later clearly proves.

The liver was not only considered the seat of courage but of love, and for the liver to be without blood was to indicate the coward. White livered (bloodless livered) was a common epithet applied to those lacking in courage.

PHYSIOLOGY.

Brutus. You are my true and honorable wife;
As dear to me as are the ruddy drops
That visit my sad heart.
—*Julius Cæsar, Act II., Sc. 1.*

Shakspere here displays what seems to be a marvellous acquaintance with physiology as well as with medicine. The last two foregoing lines, as quoted, indicate a knowledge of the circulation of the blood. Again in Hamlet (Act I., Sc. 5) we find:

——— "Holds such an enmity with blood of man
That swift as quicksilver it courses through
The natural gates and alleys of the body;
And with a sudden vigor it doth posset (coagulate)
And curd, like aigre* droppings into milk,
The thin and wholesome blood;"

This is indeed in anticipation of Harvey. The play of Hamlet was first printed in 1603 while Harvey made known his discovery of the circulation of the blood in 1628, although he states in his *Exercitatio-Anatomisa de Motu Cordis et Sanguinis* that he had for nine years been demonstrating the subject in his lectures at the College of Physicians in London. Even this would, if allowed, carry him back only as far as 1619 or sixteen years after the first appearance in print of Hamlet. *Julius Caesar* was first published in 1623.

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*Acid.

See also page 155 for a confirmation of Shakspere's knowledge of the circulation of the blood.

NUTRITION.

Menenius. There was a time when all the body's members
Rebell'd against the belly; thus accus'd it:—
That only like a gulf it did remain
I' the midst o' the body, idle and unactive,
Still cupboarding the viand, never bearing
Like labour with the rest; when the other instruments
Did see and hear, devise, instruct, walk, feel,
And mutually participate; did minister
Unto the appetite and affection common
Of the whole body. The belly answered,—
Second Citizen. Well, sir, what answer made the belly?
Menenius. Sir, I shall tell you.—With a kind of smile,
Which ne'er came from the lungs, but even thus,
(For look you, I may make the belly smile
As well as speak,) it tauntingly replied
To the discontented members, the mutinous parts
That envied his receipt; even so most fitly
As you malign our senators, for that
They are not such as you.
Second Citizen. Your belly's answer: What!
The kingly crowned head, the vigilant eye,
The counsellor heart, the arm of our soldier,
Our steed the leg, the tongue the trumpeter,
With other muniments and petty helps
In this our fabric, if that they——
Menenius. When then?—
'Fore me this fellow speaks!—What then? What then?
Second Citizen. Should by the cormorant belly be restrain'd
Who is the sink o' the body.——
Menenius. Well, what then?
Second Citizen. The former agents, if they did complain,
What could the belly answer?
Menenius. I will tell you;
If you'll bestow a small (of what you have little)
Patience awhile, you'll hear the belly's answer.

* * * * * * * *

SHAKSPERE IN MEDICINE.

Note me this, good friend,
Your most grave belly was deliberate,
Not rash like his accusers, and thus answer'd.
"True is it, my incorporate friends," quoth he,
"That I receive the general food at first,
Which you do live upon: and fit it is;
Because I am the storehouse, and the shop
Of the whole body: But if you do remember,
I send it through the rivers of your blood,
Even to the court, the heart, to the seat o' the brain,
And through the cranks and offices of man:
The strongest nerves, and small inferior veins
From me receive that natural competency
Whereby they live: And though that all at once,
You, my good friends, ("this says the belly,") mark me,—

* * * * * * * * * *

"Though all at once cannot
See what I do deliver out to each;
Yet can I make my audit up, that all
From me do back receive the flour of all,
And leave me but the bran."

* * * * * * * * *

The senators of Rome are this good belly,
And you the mutinous members: For examine
Their councils and their cares; digest things rightly,
Touching the weal o' the common; you shall find,
No public benefit, which you receive,
But it proceeds, or comes, from them to you,
And no way from yourselves.—What do you think?
You, the great toe of this assembly?—

—Coriolanus, Act I., Sc. 1.

Truly, here is a startlingly accurate statement of digestion and nutrition and the part played by the intestines, since the belly means the abdominal cavity. Here also is confirmation of Shakspere's knowledge of the circulation of the blood:

"I send it through the rivers of your blood
Even to the court, the heart."

PUBERTY.

Capulet. My child is yet a stranger in the world;
She hath not seen the change of fourteen years.
Let two more summers wither in their pride,
Ere we may think her ripe to be a bride.
Paris. Younger than she are happy mothers made.
Capulet. And too soon marr'd are those so early made.

—Romeo and Juliet, Act I., Sc. 2.

Puberty is here placed at fourteen years.

SHAKSPERE IN MEDICINE.

INHERITANCE.

Paulina. ——————Behold, my lords,
Although the print be little, the whole matter
And copy of the father; eye, nose, lip,
The trick of his frown, his forehead; nay, the valley,
The pretty dimples of his chin and cheek; his smiles;
The very mould and frame of hand, nail, finger;
And thou, good goddess Nature, which hast made it
So like to him that got it, if thou hast
The ordering of the mind too, 'mongst all colors
No yellow in't; lest she suspect, as he does,
Her children not her husband's!
—*Winter's Tale, Act II., Sc. 3.*

Inheritance of physical, moral and mental traits.

HEREDITY.

Oberon. And the blots of nature's hand
Shall not in their issue stand;
Nor mole, hare-lip, nor scar,
Nor mark prodigious, such as are
Despised in nativity,
Shall upon their children be.
—*Midsummer Night's Dream, Act V., Sc. 2.*

Bastard. Madam, I was not old Sir Robert's son;
Sir Robert might have eat his part in me
Upon Good Friday, and ne'er broke his fast:
Could he get me? Sir Robert could not do it;
We know his handy-work:—Therefore, good mother,
To whom am I beholden for these limbs?
Sir Robert never holp to make this leg.
—*King John, Act I., Sc. 1.*

The law of heredity is here clearly stated.

Lepidus. I must not think there are
Evils enow to darken all his goodness:
His faults, in him, seem as the spots of heaven,
More fiery by night's blackness; hereditary
Rather than purchased; what he cannot change,
Than what he chooses.
—*Antony and Cleopatra, Act I., Sc. 4.*

Holofernes. This is a gift that I have, simple, simple; a foolish extravagant spirit, full of forms, figures, shapes, objects, ideas, apprehensions,

(*To be continued.*)

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EDITORIAL.

HABIT.

THAT habit plays an important part in psychology none will deny. It is common to both man and the lower animals; is defined as a fixed tendency, the result of repetition and association; to think, act, or feel in any particular way under special circumstances. Its greatest importance may be said to exist in the sphere of voluntary action. It simplifies movements required to achieve given results, makes them more active and diminishes fatigue. It also diminishes the conscious attention with which our acts are performed. Physiologically, habit implies that the higher nervous functions are relegated to the lower or automatic centers. Psychologically regarded, it implies the probability of mental progress. What we have learned becomes a matter of course, is unconsciously utilized when the proper impulse is given, thus allowing us to drop one topic and take up another without fear of forgetting the first. Habit covers all and every form of voluntary action that we have made our own; is an individual rule of conduct. Custom is habit because of its regularity and uniformity; it exercises moral constraint. Habit plays an important part in evolution and changes with changed environment. An animal may be forced to change its habits because of changed environment. Whales are evidently descended from an ancestor which traveled on all fours, and birds from four-footed reptiles. Because of changed conditions of life and competition, thus leading to a change of habits, they no longer resemble their ancestors. This change of habits leads to changes in the use of function. "Certain complex actions," says Darwin, "are of direct or indirect service under certain states of the mind, in order to relieve or gratify certain sensations, desires, etc., and wherever the same state of mind is induced, however feebly, there is a tendency through the form of habit and association for the same movements to be performed."

The most complex and difficult movements can in time be performed without the least effort or consciousness through an acquired habit. Thus what is extremely difficult may through habit come to be unconsciously performed with extreme accuracy, notably the fingering of the piano keys or violin strings. What at first appears to be impossible of accomplishment, through the influence of the will exercised over the nerves controlling motion and sensation becomes automatic. In animals this is noticed in the acquirement through training of movements which are not natural to them, the single-footing of the horse, pointing of dogs, and this habit becomes in a large measure hereditary, originally performed for a definite end, later through inherited habit. The lifting of one foot by a dog when intensely watching another animal, the alternate movements of the forefoot of puppies and kittens against the mammary glands when nursing, the scratching of young chickens when feeding, even when fed on a plank floor, are examples of this hereditary tendency. A man will scratch his head when in deep thought or perplexed, another rub his eyes or again give a nervous cough when embarrassed. Again, he will close his eyes when seriously contemplating a proposition, nod his head in affirmation or shake it when disagreeing. Women will be if noticed often found moving their jaws when using scissors, children protrude and twist their tongue when learning to write.

These expressions of habit can be said to be physiological. Another phase of habit may be termed the pathological, best illustrated when one is disturbed in the usual tenor of habit. The husband habitually accustomed to sleep on the right side of the bed will be much disturbed and his sleep interfered with when compelled to change sides for any reason. If things go wrong in making his toilet in the morning, his usual habit is disturbed; if the breakfast is out of the usual—tea served instead of coffee—or a member of the family absent from the breakfast table. And these things, small as they seem to be, interfere with his peace of mind during the whole day—he is said to be cross with his associates, uncongenial and discourteous, instead of otherwise, as is his usual habit. The day is filled with unusual experiences and becomes tedious. He comes home fatigued and is not again himself until sleep, nature's sweet restorer, has been indulged in.

THE INFLUENCE OF SLEEP ON DIGESTION.

THIS subject has recently been discussed somewhat, and it would seem divergent opinions expressed as to the effects of a siesta after the midday meal upon the digestion, some physicians expressing themselves as being convinced after careful observation that sleep after meals retards digestion, others that it aids it. Climate, age and state of health, it is believed, are factors which must largely determine the effects, those in temperate climates having less need for rest at midday than those who reside in warm climates. This is undoubtedly true, for in warm climates the individual is compelled to remain indoors for two or three hours at midday, not only because of the high temperature which makes it dangerous for him to expose himself to the direct rays of the tropic sun, but for the more important reason that the individual in tropic climates is incapable of occupying himself mentally or physically at such a time because of the condition or enervation, always found in such climates. In such localities the midday siesta becomes a habit, if not a necessity. Under such surroundings, should one lay prone and sleep, or sit upright and remain awake; in other words, does sleep during digestion weaken the motility of the stomach and increase the acidity of the gastric juice, as well as interfere with the stomach contents pressing into the intestine, as some claim; and are these influences obviated when one remains awake and in an upright position, thus stimulating the gastric function?

Physiologists have reported experiments upon animals to determine these points, and it has been proven that dogs at rest after a meal have perfect digestion of food, while those in active exercise, such as running, did not. Work horses and other animals, if left to themselves, will invariably rest after a meal, particularly at midday. Notwithstanding what is claimed by some that athletes do indulge in violent exercise after their midday meal, we are of the opinion that the average man in health will insist upon a rest, while the ailing will be much disturbed physically if compelled to exercise immediately after meals. Observation has shown us that all young animals, including the infant in arms, will go to sleep at once after a meal, thus proving that sleep at such times is physiological and not altogether a habit. We believe that a short sleep of say thirty minutes after the midday meal is perfectly natural, and that those who can indulge in it are benefited—refreshed, but the element of personal experience will best determine the point for the individual, for all men are not alike; besides, we become creatures of habit, and this becomes so fixed that any deviation from the usual often disturbs us. Thirty minutes' rest after the midday meal should be sufficient, more will probably retard digestion and make one less acute and active. The young and the aged in our judgment should be encouraged to take a midday siesta, as well as those who are ailing.

GASTERINE, A NEW DIGESTANT.

Under the name Gasterine, the natural gastric juice of dogs is now on the market as a superior digestive preparation. It is said to contain a large amount of pepsin and of rennet ferment, together with 5.6 per thousand of hydrochloric acid (or more than in ordinary gastric juice).

Several communications on this subject have appeared in the *Bulletin de la Société des Hop. de Paris.* Le Géndre states that in his experience at the Tenon Hospital he has found the natural gastric juice from the isolated stomachs of dogs, as prepared by Frémont, to which he has given the name of gasterin, the most powerful remedy we possess for insufficient gastric digestion and intestinal fermentation. He reports several instances of its efficacy, especially marked in some cases of post-operative gastric disturbances, in the anorexia and gastric intolerance of pregnancy and subsequent to abortion, in arresting the excessive thirst accompanying certain dyspepsias, and in rebellious diarrhea. Réndu confirms these assertions and cites the case of the daughter of a physician who was evidently passing into a rapid decline after a pleurisy, with absolute gastric intolerance. A few doses of gasterin restored the appetite and digestive functions to normal. Frémont describes a case of enteritis and emaciation from months of diarrhea, cured in a few days with gasterine. The enteritis was evidently due to secretory insufficiency of the stomach. There is no pain in these cases. The nerves are insufficient for transmitting pain, as well as for controlling the muscular action of the stomach and its secreting functions. The intestine takes care of the insufficiently digested matters for a time, but finally they irritate the walls and diarrhea follows. Is it not true that many debilitated, anemic, neurasthenic persons vegetate in an apparently incurable condition because their physician has not discovered their gastric insufficiency—the primal cause of the trouble—and prescribed the appropriate remedy? Mathieu describes fifteen cases cured with gasterine, and concludes from his experience that it frequently improves the digestion in hypochlorhydria, accompanied by more or less neurasthenia. Strength returns under its influence, and he considers it a remedy superior to all those that have been used in analogous conditions. Even in case of cancer of the stomach, he adds, if it is tolerated, it may produce marked improvement for a time.

TYPHOID FEVER EPIDEMIC.

On January 3rd, the Health authorities of Scranton, Pa., reported 31 new cases of typhoid fever, this bringing the total number of cases during the present epidemic up to 930. In Pittsburg and Allegheny there has been reported 3,500 cases, while throughout the county the disease is prevalent. Since January 1st to December 20th, 1906, there has been reported in Pittsburg 5,457 cases; in Allegheny 2,000, or nearly 7,500 cases in about eleven months. The death rate in the two latter cities has been nearly 6 per cent. In these cities the epidemic is charged to the water supply, and the reservoir at Scranton which furnished the city has been ordered closed, while all of the hospitals are filled, a dozen or more sanitariums crowded, and the city armory turned into a hospital. Physicians and nurses are utterly exhausted, several of them having succumbed to the disease.

This condition is appalling. Should the Croton water supply become contaminated with the typhoid bacilli, the city of New York would suffer to a degree fearful to contemplate. State authorities should take this matter in hand, and if there is not lawful authority at present sufficiently stringent to compel an observance of prophylaxis and hygiene, they should be at once enacted and means taken to enforce them to the limit of protection.

After all that has been written concerning the demonstrated facts in regard to the truth that typhoid is a preventable disease, this epidemic in Pennsylvania can not appear other than criminal negligence on the part of the State and local authorities. Eternal vigilance, intelligently directed, is the only safeguard, and some one should be held accountable for the prevention of typhoid epidemics both in urban and rural districts.

DOES IT PAY TO BE GOODNATURED?

It has been asked, does it pay to be goodnatured? We think the answer to the question will need qualification or analysis, for to be goodnatured implies qualities other than simply being pleasant. A goodnatured man is usually considered one who is always pleasant, satisfied with whatever occurs, easily persuaded, with not much force, without set opinions, one who agrees with those with whom he is associated, an optimist and usually "an easy mark." Does such a man get what is his due? Is he not usually a victim in and out of season? Does he not accept of indignities at the hands of others, fail to insist upon his rights, demand quid pro quo, simply because he is goodnatured? And is he not subject to imposition at home, as well as abroad, because he is goodnatured? In contrast to the goodnatured man, take the illtempered one. Is there anything on earth he does not get? Life is made easy for him at home and abroad. The meals must be perfect, the appointments of his home to his liking, his wishes as well as orders immediately executed or someone gets a blowing up. He is never asked to work overtime or to do another's work; on the contrary, he usually does rather less than his share, others preferring to clean up after him than to have a fuss or a curt reply to a question of why. This man is better served and of course more hated than the goodnatured one. In all his doings, his relations to others, he is sure to have the choicest, the best and most commanding positions, the largest wealth, while life, as above stated, is made easy for him. Show me an illtempered man, and I will prove him a pessimist.

Does it pay to be goodnatured?

TWENTIETH CENTURY HUMANITY

We learn through the daily press of this city that recently a boy of ten years of age who had been run over by a heavy truck wagon was refused admission to or surgical aid by the surgeon of the Woman's Hospital, near where the accident occurred, because being a male, and the rules stating that no male should be admitted, he was compelled to refuse admittance or aid. The poor little fellow must therefore wait the arrival of an ambulance to take him to another hospital. In the meantime, his poor mangled body lay exposed on the street, life passing away, when it is not certain but that timely aid might have saved him. Death came within a few hours.

What harm this poor little suffering child of ten years of age could have done to the female inmates of this institution we do not know, but we do believe that if the facts are as related, the surgeon was inhuman and unfitted for his calling. He should become instead an inmate of an abattoir. First aid should be cheerfully and enthusiastically given wherever and whenever needed, and by any and everyone in a position to do so, whether called upon or not. What a contrast between the case related and that of an ambulance surgeon who but recently in this city crept under an electric car to render aid to a dying man pinned beneath the car trucks, thereby risk-ing his own life through coming in contact with the powerful electric current. But all men are not alike, for which fact we should be grateful.

PROPHYLAXIS.

John L. Heffron, in the *Therapeutic Gazette* for October, 1906, says that prophylaxis should be the high aim of every conscientious physician, for when one contemplates the fact that our present day knowledge is exact as to how to prevent the ravages of smallpox by vaccination, of typhoid fever by the destruction of the infectious principles in the excretions, of malaria and yellow fever by controlling the breeding places of the known varieties of mosquitoes from which man receives the infectious agent or through protection from them by mechanical means, of tuberculosis by the destruction of the bacilli in the sputum or from local lesions, of diphtheria and scarlet fever by rigid quarantine and the use of specific sera, it is appalling and discouraging to realize that through ignorance, prejudice and carelessness, these diseases are still slaying their thousands; their tens of thousands. He thinks that a certain amount of responsibility for this condition of things inevitably rests upon the shoulders of members of the medical profession. That much has been accomplished in the prophylaxis of disease can not be gainsaid, for the introduction of public water systems and of sewers, laws requiring notification of communicable diseases, the isolation of the patient and the disinfection of the house at the termination of the disease, has caused a large decrease in the death rate from zymotic diseases, not less than 30 per cent. in London in the first decade during which these laws were enforced, although the general death rate fell but 3 per cent. Until we adopt the policy of enforcing the laws relating to sanitary problems and enforce a special education for such physicians and sanitariums as propose entering the public health service even in obscure districts, we must expect such inefficient service as makes possible our uncomplimentary record in controlling communicable diseases.

Prophylaxis is closely related to therapeutics, and like therapeutics has developed largely during the past half century. We have a very convincing evidence of what prophylaxis can accomplish in the records given us of the health of the Japan Army and Navy during their late war with Russia.

PNEUMONIA TEMPERATURE.

Fever has been shown to be a conservative process and not a phenomenon to be savagely attacked. Among the most significant demonstrations of the effect of temperature in disease is noted that in pneumonia.

The specific cause of pneumonia, the pneumococcus, is destroyed by exposure to a temperature of 104° F. for three or four days, whereas at a lower temperature, but still above normal in man, its destruction is not accomplished short of fourteen days. The deduction is that he who effects a diminution in temperature in pneumonia by drug interference, by just so much diminishes the prospects of the rapid recovery of his patient.

A NATIONAL DEPARTMENT OF HEALTH.

At the last meeting of the American Association for the Advancement of Science, at Ithaca, June 30, 1906, a committee was appointed under resolutions of that body, to promote the establishment of a National Department of Health by agitation in all legitimate ways for the purpose of creating a public sentiment in its favor. The naming of the members of the committee is in the hands of Professor Irving Fisher, Yale University, chairman of this section of the American Association for the Advancement of Science. The names of the Committee of One Hundred selected will be announced shortly. The movement in general already has the support of the principal journals of medicine and hygiene in the United States.

LANOLIN AS AN EXCIPIENT.

Lanolin is recommended (*Prnegl. lekarski,* 1906, No. 31) as an excipient for pills where it is desired that a drug should reach the intestines unchanged by its passage through the stomach. It is not dissolved by the gastric juice, but is broken up by the fat splitting processes of intestinal digestion. Its melting point should be about 45 degrees C.

COMMUNICATIONS.

To the Editor:

ON the threshold of expenditures for new subways involving between three and four hundred million dollars by New York City, not to speak of the projects of private companies, the question may fairly be asked, What, if any, are the effects of this new method of transportation upon health? Are there any dangers of disease which are peculiar to this method of travel or are any common dangers increased thereby?

To these questions it may frankly be said that very little is known concerning the effects of subway travel on health. Underground railroads have been in use for years in several cities in Europe and in Boston, but if the peculiar conditions which occur in underground roads have any effects upon health, they have never been exhaustively investigated. The studies into this subject made by the Board of Rapid Transit Commissioners have been the most extensive thus far recorded.

A great deal of interest has been aroused concerning the condition of the air of the New York subway. There is a general impression that it is unsatisfactory from a sanitary standpoint. The fact probably is that the air is unpleasant rather than actually harmful.

In summer the air is hot at nearly all times and has a disagreeable odor, but thousands of chemical and bacteriological analyses have failed to discover the presence of any impurities which are peculiar to the subway or excessive in amount except such as will be presently mentioned.

There is ample oxygen; the carbon dioxid is well within the limits of sanitary safety; and the bacteria are only half as numerous as in the air of the streets under which the subway runs. A single question remains to be settled in this connection, namely, the possibly ill effects of the black metallic dust which is produced by the wear and tear of the road. This matter is now being investigated. It is too early to report the results. If any danger exists, it is probably of a kind which can be guarded against in the future.

Contrary to the general impression, the heat and odors of the subway do not indicate a lack of ventilation. The air of the subway as a whole is probably renewed at least every half hour, which is all that sanitary considerations demand. The excessive heat is due to the immense amount of power used in starting and stopping the cars. The trains are supplied with many motors, each of which gets hot and acts like a stove which is carried back and forth from one end of the subway to the other. The brakes act in a similar way.

There are many conditions which help to keep in the heat and make the subway hot. If there were fewer stations or the trains were run at slower speed, there would be less heat. If the road was one or two tracks wide instead of four, the walls would absorb more of the heat and there would be less of it left to raise the temperature. If the walls were not so thoroughly waterproofed with layers of tar paper within the masonry, they would allow more heat to pass through and escape. Finally, if the subway was more open, that is, had larger and more numerous openings to the street, the hot air would be flushed out more thoroughly than it is now. The odors which are diffused through the general air of the subway are capable of being avoided in future to a considerable extent. They are due largely to the slaty character of the broken stone ballast and to the excessive waste of lubricants which drip from the machinery upon the tracks. If the subway were cooler, these odors would be much less noticeable.

We have been considering up to the present point the condition of the air of the subway as a whole, that is the air which flows freely back and forth at the stations and between stations and under average conditions as to the part of the subway and the hour of the day or night. Local conditions sometimes occur which are much less satisfactory than these general conditions.

It is only necessary to invite attention to these local conditions to show their unpleasant and sometimes unsanitary nature. I refer to the uncared for condition of many of the water closets, and the filthy condition of the tracks at some stations as examples of unsatisfactory local conditions.

The crowding of passengers into the cars is a sanitary problem of the gravest interest in connection with the present subway and future subways. In the densely crowded conditions which exist in the cars and especially at their ends, the opportunities for the transfer of the poisonous germs of respiratory diseases are ideal. This danger is not restricted to subway travel, however, but exists wherever similar conditions of human herding occur. GEORGE A. SOPER, Ph.D.

LONDON LETTER.

GREAT BRITAIN generally, and London in particular, are commencing to become conscious of the fact, that in so far as the milk supply is concerned, other countries are greatly ahead. The manner in which milk is transported to, distributed and retailed in London is in many respects disgraceful. The London *Lancet* is taking cognizance of the matter, and in its issues of January 19 and 26, published special articles relating to the mode universally practised in London of retailing milk in small, general provision stores. The account given of such stores is interesting and instructive, but there is no space here to more than notice the subject. It may, however, be said that more than 80 per cent. of the milk premises of London are situated in small, general provision stores, and that the poorer classes of the British metropolis procure almost the whole of their milk supply from these small stores. It is almost needless to add that the milk in stores of this description is not guarded against pollution, and the consequence to the infant life of poorer London are disastrous. During the week ending January 26th, a deputation representing the Infants' Health Society waited upon the President of the Local Government Board (a British Cabinet minister) with reference to the report that he intended to introduce a Bill to legalize the action of local authorities in establishing depôts for the supply of sterilized milk for infants. Sir Thomas Barlow, a celebrated London physician who introduced the deputation, declared himself to be not greatly in favor of sterilized milk, as children fed on such milk developed scurvy and rickets, and serious cases of zymotic diarrhea sometimes occurred even when children had been fed on sterilized milk. He believed that the problem of a pure milk supply would be solved by refrigerating measures. Sir Lauder Brunton and Mr. Mayo Robson advocated similar views. Mr. John Burns, President of Local Government Board, said in reply that at present it was held to be illegal for municipalities to maintain sterilized milk depôts, and as seven or eight such depôts had been established, it seemed right to extricate the local authorities from that position. The milk supply must be put on a safe system.

The report of the Public Health Committee of the London County Council for 1905 has just been published. The birth-rate 27.1 per 1,000 was the lowest recorded. Death-rate, 15.9 per 1,000, like the birth-rate, was the lowest that has been recorded in London since the registration of deaths has been made compulsory. The infantile mortality rate in the whole of London was 129 per 1,000.

The question of diet bulks very large in Great Britain at the present time, both among medical men and to a lesser extent with the general public. The views of Professor Chittenden, of Yale, do not find by any means universal credence with British physicians. Professor Halliburton, one of the best known authorities on the subject here, delivered a lecture on January 9, in which he contravened the main conclusion of Chittenden, that the consumption of proteids by the meat-eating people was far too great. Professor Halliburton, on the contrary, holds that it is safer to eat too much than too little. It is interesting to note that Dr. S. J. Meltzer, of New York, in the fifth Harvey Society lecture, which he gave at the Academy of Medicine, New York City, on December 15, expressed views very similar to those of Professor Halliburton.

In England a Bill has become law which provides that school children whose parents are not able to afford proper meals, will be fed at the public expense. Many wise thinkers are of the opinion that the principle of this bill is extremely faulty, and that those parents who declare themselves unable to give their children food will in a large number of instances seize the opportunity to absolve themselve from the responsibility of feeding their offspring, and spend the money which should have been expended for this purpose on personal pleasures, probably on drink. At any rate, the Bill opens the door wide for this kind of abuse.

A very important lecture dealing with infant feeding was delivered by Robert Hutchison, M.D., F.R.C.P., at the London Institute of Hygiene on

Wednesday, February 6. The name of Dr. Hutchison is well known in America as that of the writer of a classic on diet. Of course the lecturer dwelt with much stress upon the superiority of natural feeding over artificial feeding, and he discussed the management of such feeding. On one point he was particularly emphatic—that infants should be weaned at an age not later than ten months. As to artificial feeding, there is no space to more than comment upon briefly the more essential features which Dr. Hutchison urged. He recommended five pounds of milk food for infants. Cows' milk, to be diluted in the proportion of half milk and half water, with the addition in the majority of instances of certain definite small quantities of cream and sugar. When infants found this degree of solution too strong the addition of one grain of citrate of soda to every ounce of milk was advised. There were, however, said the lecturer, some objections to citrated milk, and then good condensed milk, rightly used, was recommended. Sweetened condensed milk was the form suggested by the lecturer. This should be properly diluted and a small quantity of cream added. Dr. Hutchison declared that such a solution nearly resembled in composition human milk, and was better than the half cows' milk and half water mixture. However, Dr. Hutchison stated that the solution of condensed milk should not be used after the age of four months, as its employment for a too long period was calculated to produce rickets. In certain cases the use of dessicated or peptonized milk was indicated. The technic of feeding was entered into at considerable length and the employment of patent foods was strongly condemned.

The second interim report of the Royal British Commission, appointed to enquire as to the connection between human and bovine tuberculosis, was published on February 1. The whole report is a remarkable confirmation of the views generally expressed by the British and American investigators into the subject, since the statement made by Koch in 1901 practically revolutionized existing ideas with regard to the relationship between human and bovine tuberculosis. The commission point out that while much has still to be discovered, they are confident that in a certain number of cases tuberculosis is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis, and that in the greater number of such cases the germ is introduced by the agency of infected cows' milk. It would seem likely that one result of the conclusions of the commission will be that the entire system of Great Britain's milk supply and especially that of London will undergo revision.

An epidemic of cerebrospinal meningitis on a somewhat large scale has broken out in Belfast. Up to the time of writing sixty cases have been noted, of whom twenty-six have succumbed, giving a death rate of nearly 50 per cent. The disease has also appeared in Glasgow and in other Scotch cities. A serum, the joint discovery of Professor Kolle, of Berne University, and of Professor Watterman, of Berlin, is being used, but it is too early yet to state with what effect. Urban roof gardens and roof hospitals have been inaugurated in London for the behoof of city children. The gardens are intended as playgrounds, and the hospitals for the use of the tuberculous children of the poor. The Liverpool School of Tropical Medicine last year sent Professor Ronal Ross to Greece to study malaria there. One result of the visit has been that the school has been raising funds in England for the purpose of fighting malaria in Greece.

KOCH FINDS A PREPARATION OF ARSENIC THE SPECIFIC FOR SLEEPING SICKNESS.

Robert Koch has reported officially to the secretary of the interior at Berlin that he has found atoxyl, a preparation of arsenic, as truly a specific for sleeping sickness as quinin is for malaria. His party is located on one of the islands in the Lake Victoria Nyanza, in the heart of Africa, and he writes exultingly that experience with hundreds of cases shows that the trypanosomes vanish from the glands by the eighth hour after subcutaneous injection of the remedy. The trypanosomes are apparently uninfluenced by the drug up to the sixth hour, but they then rapidly vanish and none is to be found by the eighth hour. As they vanish the patients feel immeasurably improved, and this improvement persists and is progressive. The natives are flocking to the party for relief and they now have about 900 under treatment. Instead of giving the drug according to the usual technic for arsenic, Koch follows the rules for quinin, giving 0.5 gm. on two consecutive days. No by-effects were ever noted, and the dose might be increased, but this is not necessary, as the desired results are obtained with this amount. The expedition took a supply of atoxyl and trypan red with them, the two drugs, he states, known to date to be effectual against trypanosomes. The report is published in full in the *Deutsche med. Wochschr.* for December 20. It describes the flies which convey the trypanosomes and reviews their habits of life, etc. Koch states that he has found the same trypanosomes in other animals, predominantly in the crocodile. Among 1,497 tsetse flies examined, 177 were found with freshly sucked blood in their digestive organs. In 66 the blood was recognized as coming from a mammal and probably from man. In the other 111 the blood corpuscles were oval and nucleated and were probably derived from the crocodile, especially as with the blood were frequently encountered specimens of the blood parasite peculiar to the crocodile. He thinks it highly probable that the blood of the crocodile is one of the most important conditions for the existence of the *Glossina palpalis,* at least in the locality where he is conducting his research. The natives say that the crocodiles are often bitten by flies. Experiments with crocodiles are now under way. The *Trypanosoma gambiense,* assumed to be the cause of sleeping sickness, was found in only one of the 96 flies containing trypanosomes. The *Glossina palpalis* has long infested the regions recently invaded by sleeping sickness, although it seems to be confined to the shores of waterways and lakes. The comparatively peaceful conditions now prevailing in the interior of Africa have promoted inter-tribal relations and allowed the inland people to take advantage of the fishing in the lake from which they were formerly debarred by a warlike tribe. This tribe has been nearly exterminated by sleeping sickness in the last tour years, and the influx of outsiders has contributed to spread the disease. It seems to affect the men most, many of the villages having no inhabitants left except women and children. The missionaries estimate that the population of the islands, which was about 30,000 four years ago, is now less than 12,000. In one village where there used to be 200 people there are now only 55, and Koch found the trypanosome in 17 of these. Examination of the blood is frequently negative, but excision of a scrap of the tumefied glands in the neck always gave positive findings in case of trypanosomiasis. The injected atoxyl seems to act on all of the infected glands of the body at once, as they all return to normal size almost simultaneously after the injection of atoxyl. This drug has been used for some time in cases indicating arsenic. It is the anilid of meta-arsenous acid, and is said to be less toxic than the ordinary arsenical compounds and free from the garlicky odor which the cacodylates impart to the breath and perspiration.—*Abst. in J. A. M. A., Jan.* 12, 1907.

IN PRAISE OF RUM AND MILK.

Dr. Francis T. Bond in the *Lancet,* draws attention to the great value of this combination as what one might term a food tonic, and it is pleasing to note that he uses the term Jamaica rum, for between Jamaica rum and the rum which is too frequently sold (Demerara rum) there is a very wide difference indeed. Some two years ago the writer had occasion to investigate this question of the difference in quality between Jamaica and Demerara rum, and also to investigate the therapeutic action of good rum itself, and found that Demerara rum contained a little over 60 parts of combined ethers per 100,000 parts of absolute alcohol, whereas Jamaica rum contained anything from 300 to 600 parts of compound ethers in the same amount of absolute alcohol.

The author went to considerable trouble to look up old authorities on the question of the therapeutics of rum, and was somewhat astonished to find them speaking so highly of this particular spirit. It was stated by one of these authorities that rum had a more decided action than either brandy, whisky or gin in increasing the amount of carbonic acid given off from the system. It was further stated that rum was the only alcoholic liquor which produced perspiration, and, finally, the important statement was made that rum was one of the very best alcoholic restoratives, its action being not a mere flash-in-the-pan, but of a steady and conservative character. Dr. Edward Smith, Dr. James Inman, Dr. Letheby and Dr. Ringer all agreed upon this point. The first-named stated that "the old-fashioned combination of rum and milk is the most powerful restorative with which he is acquainted." Dr. James Inman stated that "for internal use in cases of phthisis and similar diseases, rum and milk is far better as a means of supplying fat to the body than cod-liver oil." The author has himself tested the remedy in a number of cases, and can personally vouch for the truth of the matter, but, he repeats, the greatest care should be taken to obtain Jamaica rum and not Demerara rum.—*Journal American Medical Association,* Jan. 12, 1907.

BEDBUGS AND DISEASE POSSIBILITIES.

Though the bedbug has been known as an extremely unmanageable pest of humanity almost as long as history runs, very little has been ascertained with scientific definiteness regarding its habits and life history until recent years. Somehow the very thought of the insect and certain objectionable features that it is known to possess, such as its defensive as well as offensive odor, have deterred students from taking up the investigation of its life cycle, though its anatomy was very thoroughly studied over twenty-five years ago by Landon and others. In recent years the possibilities of the conveyance of diseases of various kinds by means of this insect parasite have been recognized, and renewed interest has been aroused in everything that concerns it. For example, in smallpox epidemics, the spread of the disease through cheap lodging houses is more frequent than through any other means, and the houses in which bedbugs are found seem to furnish a steady supply of victims. This impression was renewed during the recent epidemic of smallpox throughout the United States and Canada. On at least one occasion tubercle bacilli have been found in the blood of the bedbug, and, as in this case a brother of the patient, who had occupied the same bed, had died from tuberculosis, and another brother suffered from a severe and rapidly running form of the same disease, there was more than a suspicion that this parasite was a distributing agent for the disease. There is a definite tradition in Russia, frequently repeated by Professor Metchnikoff in his lectures at the Pasteur Institute, that the bedbug forms an intermediate host or is at least an agent for conveying intermittent fever, so common in certain districts of that country. Its possibilities in the rôle of intermediary in cerebrospinal meningitis are still the subject of investigation.

In these circumstances all possible information with regard to the pest is interesting, and consequently a leaflet issued by the Department of Agriculture should attract attention. This pamphlet is written by Dr. Girault, who has carefully followed the life history of cimex or clinocoris, as the insect is variously called in scientific nomenclature, and has found important new material with regard to its feeding habits. The adult insect feeds about once in from thirty-six to forty-eight hours, taking nearly fifteen minutes to get its fill of blood. At earlier ages the feeding period is much shorter. Except in susceptible human beings who have a decided idiosyncrasy, no local effect at all is produced by the feeding process. Some individuals, however, suffer from almost intolerable itching and have a series of urticaria-like lesions. The parasite is so prevalent in certain parts of the country, however, that it is evident that those with an idiosyncrasy are comparatively rare. The insect may live from five to ten weeks or even longer without any food. This is especially true during the winter, when, if they have no food, they go into a sort of comatose condition. While each insect seems to live not longer than about 100 days at the outside, some have been known to exist as long as eight months; and it is these that enable the species to continue its existence even under unfavorable circumstances, so that they live from season to season in lumber camps, summer residences, empty apartments, and the like.

Another interesting phase of investigation with regard to the bedbug and its connection with disease was carried on by Drs. Girault and Strauss as to whether or not the insect had other host relations besides those with the human race. As is easily understood, the host relations of this insect are greatly increased in importance because of their scope in the potential transmission of disease if they attack other animals than man. It has been found experimentally that at least mice, both living and dead, are attacked by bedbugs and that young mice particularly seem to provide an excellent supply of food for them. This observation has been confirmed by observations made by Drs. Girault and Strauss, and, as it seems not unlikely that other small animals, including even rats, may also be hosts, the spread of such affections as pest, mouse septicemia, and the like, by means of this parasite must be taken into account. In a word, a new department of disease etiology seems to be opened up by these observations.—*Jour. A. M. A.*, March 17, 1906.

BOOKS AS CARRIERS OF DISEASES.

Diseases carried by books of public libraries occupied the attention of the Paris Academy of Medicine, according to recent dispatches. It was reported that it had been experimentally determined that certain dried organisms retained vitality on the leaves of books, those of cholera two days, diphtheria 28 days, typhoid 50 days, and those of tuberculosis at least three months. It was stated that many cases of tuberculosis, particularly among students and clerks, were contracted from the books they handled. While not prepared to agree entirely with this statement, yet it is evident that library books can carry infection and are a source of some danger at least. We are notoriously careless in lending literature to invalids, even those with highly contagious diseases, and though the risk may be slight it is not wise to take it if avoidable. We do not sterilize money, yet no sensitble man ever puts money in his mouth any more —it may have been in the mouth of a syphilitic a short time before. But it is well to think over the proposition to sterilize library books. The French have experimented in that line and find that the best of several methods tried was sterilization by 15 minutes' exposure to formaldehyd in hermetically sealed cases. Even if we do not adopt the suggestion, we need not stop patronizing the libraries, as it is extremely doubtful if we can bring in a true bill against the books very often. Even the organisms which resist drying are likely to drop off or be blown off.

AN INTERESTING PROBLEM.

Dr. R. T. Morris, of New York, reports the case of a woman who was operated on for cirrhotic ovaritis, both ovaries being removed together with all their pedicles. Two healthy ovarian grafts taken from another woman, who was operated on at the same time, were set into the broad ligaments of the woman from whom the ovaries had been removed. Four years later this woman was delivered of a daughter weighing seven and a half pounds.

That it is possible for pregnancy to follow the heteroplastic grafting of ovaries has been considered impossible. This interesting case, however, puts the matter in a different light. It would be interesting to know which of the women imparted her physical characteristics to the child.

REST AND POULTICES IN CHRONIC GASTRITIS.

Dyspeptics are not sent to bed often enough. Rest in bed facilitates the treatment in every way. It enables the patient to get on comfortably with far less food, it keeps him at a uniform temperature, and it facilitates the use of local applications. Of these we do not make, in such cases, sufficient use of moist heat. When the patient is kept in bed continuous poulticing may be adopted for a week, whilst in milder cases a hot fomentation may be applied at night and an abdominal flannel belt worn during the day.—Dr. Robert Hutchison.

THE GREAT GUEST COMES.

"While the cobbler mused there passed his pane,
A beggar drenched by the driving rain.
He called him in from the stony street
And gave him shoes for his bruised feet.
The beggar went and there came a crone,
Her face with wrinkles and sorrow sown,
A bundle of faggots bowed her back,
And she was spent with the wrench and rack.
He gave her his loaf and steadied her load
As she took her way on the weary road.
Then to his door came a little child,
Lost and afraid in the world so wild,
In the big, dark world. Catching it up,
He gave it the milk in the waiting cup,
And led it home to its mother's arms,
Out of the reach of the world's alarms.

"The day went down in the crimson west
And with it the hope of the blessed Guest.
And Conrad sighed as the world turned gay:
'Why is it, Lord, that Your feet delay,
Did You forget that this was the day?'
Then soft, in the silence a Voice he heard:
'Lift up your heart, for I kept my word.
Three times I came to your friendly door;
Three times my shadow was on your floor.
I was the beggar with the bruised feet;
I was the woman you gave to eat;
I was the child on the homeless street."

—*From a poem by Edwin Markham in the December Delineator.*

ANGINA PECTORIS IN GOUTY PATIENTS.

Angina in the gouty requires our most penetrating attention, and there are those who require, even it may be in excess of their usual habit, perhaps one of those very things that in the unwisdom of routine we might be inclined to cut them off. Certainly there are some to whom port wine, champagne, or cream or butter or sweet stuff—to name the reputedly most obnoxious articles that occur to me at the moment—will, each in its place and opportunely, bring healing on its wings.—*Dr. Goodhart.*

NUTRIENT ENEMA.

Three ounces of beef tea, prepared without salt, are to be added to an ounce of hot water. The enema must be comfortably warm, about 100°F.; if too cold or too hot it will not be retained.

AERATED MILK.

Milk charged with carbonic acid gas may be used for patients with feeble digestive power and where a change from ordinary milk is required. It is both more palatable and more refreshing than ordinary cow's milk.

DIARRHOEA IN ENTERIC FEVER.

If the diarrhœa is so great as to be exhausting to the patient's strength, and the patient is on an almost exclusively milk diet, you should first examine the stools for the presence of milk-curds; and if these are found to be present, alter the diet to beef tea and to milk well diluted with lime or soda (not merely carbonated) water, and give small doses of bismuth. Never be in too great a hurry to adopt any powerful astringent treatment. —*Dr. Curnow.*

THE NASAL MUCOUS MEMBRANE IN ANEMIA.

The mildest of the conditions in which there is dryness of the nasal mucous membrane is simple anemia, where we have collapse of the erectile tissue, insufficient supply of blood to the mucous glands of the inferior turbinated body, and consequent diminution of the secretion. This condition is not a disease, but simply a symptom of general anemia.—*Dr. Greville Macdonald.*

INJURY TO THE BACK.

Never treat lightly a case of injury to the back, no matter how trivial the cause may be. If there is the least indication of interruption of bladder power, or if there is ever so little tingling about the hands, feet, or trunk, such a case may prove disastrous, and should be treated at once as being serious.—*Sir Wm. H. Bennett.*

M. Woods, Philadelphia *Journal A. M. A.*, calls attention to the causal relation or parental alcoholism to epilepsy in the offspring, and quotes from various authorities who have given evidence as to the etiology. So far as his personal experience is concerned, he says, "the danger to the prospective child depends not exclusively as to whether the parents, one or both, were habitual drunkards, but as to whether they were intoxicated or under the influence of alcohol during the time of conception, and that a drunken parent, other things being equal, if perfectly sober and free from the irritability, remorse and exhaustion consequent on a debauch, is no more likely to produce defective offspring than an abstainer would, who might chance to be intoxicated for the first time." Two cases under his care are mentioned as being the results of single transgressions of this kind.

Every diabetic should be allowed as much carbohydrate as he is able to assimilate, estimating this by the amount of urine and sugar, and by the body weight. Milk (not exceeding a pint a day) and potatoes (to the amount of two or three large ones daily) may often be added to the diet with very little, if any, increase in the polyuria and glycosuria, and with benefit to the patient.—*Dr. Robt. Saundby.*

I am often tempted to think that those who rush to antipyrin, sulphonal, phenacetin, etc., for the reduction of temperature, or for the production of sleep, have too little experience of the antipyretic and sedative effects of tepid sponging of the face, chest and neck, especially the carotid regions of the latter.—*Dr. F. J. Smith.*

An occasional cause of acute otitis media is *frequent bathing*, especially the ducking of the head in water and allowing the water to get into the auditory canal, and to rest against the tympanum without thoroughly drying the ears.—*Mr. Henry Morris.*

One of the greatest services rendered by the late Sir Andrew Clark was his enforcement of the doctrine of spareness of diet in people suffering from heart disease.—*Dr. Sidney Coupland.*

It is an important rule to look well at a diseased or injured part before manipulating it.—*Mr. Thos. Bryant.*

When there is much pustulation in acne one of the most useful applications is one which Erasmus Wilson employed largely—a dram of the hypochlorite of sulphur to an ounce of lard. This is to be rubbed into the pustules at night. Care must, however, be taken to see that it is made with the powdered hypochlorite and that it is fresh.—*Dr. Radcliffe Crocker.*

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by FRANKLIN W. BARROWS, M.D.

THE ESSENTIALS OF NURSING.

WHAT are the essential principles of the science of nursing? Can they be adequately set forth within the compass of one volume, like that of Clara Weeks-Shaw, or the larger book by Mrs. Hampton Robb, or do they require for their exposition a series of volumes—something like the library of a physician?

What are the essential procedures in the art of nursing? Can they be demonstrated to a woman of ordinary intelligence and acquired by her as other arts are acquired, during one year or two years or three years of diligent application? Do the responsibilities of her position demand of the nurse that she devote to the learning of her life work one-half or three-quarters of the time that the physician devotes to the learning of medicine and surgery?

What are the essentials of the art and science of nursing, and how long would it take the average public school graduate to master these essentials if she works for herself only and works hard?

These questions will never be settled until they are settled right. If our friends who constitute the existing boards in charge of training schools do not take a sensible view of these problems they will find that the question of essentials is being solved by correspondence schools and by that great mass of the uninitiated to whom we frequently refer as "the laity."

The makers of our training school courses might very profitably ask themselves this question: What is the shortest time in which we can train nurses with credit to our school and our hospital? In reality, they are working on a different problem, viz.: Given a course of three years, how many things can we get into it that would be nice for nurses to know, or, bluntly, What extra inducements can we offer the nurse in return for a third year of service?

We hear that many hospitals are having difficulty in securing enough acceptable probationers to keep their ranks filled. They have to resort to advertising in order to attract pupils. Meanwhile, the demand for trained nurses is increasing; so is the demand for capable stenographers, business and correspondence clerks, saleswomen and intelligent women in many other business situations. Many bright and ambitious women are attracted away from the nursing profession to lines in which the course of preparation is shorter and less arduous, not to say hazardous. Dr. Walter S. Goodale, writing in a recent number of the *Buffalo Express,* says:

> The superintendent of a large Buffalo hospital is responsible for the statement that out of 500 applicants, taken at random, 100 only are accepted, and out of this 100 only 33 are finally graduated. The first 400 are rejected mainly on account of deficient education, slovenly appearance and general unfitness. Out of the 100 who are accepted, 63 are usually dropped on account of physical incapacity. If a woman is suffering from any organic trouble, the hard life of a nurse will surely strain her endurance to the breaking point.

Now, this is undoubtedly the story of many a training school superintendent, and it reveals a very jealous guardianship of the portals to the nursing profession. Does it not also explain why many enterprising young women choose to side-step the training school and admit themselves to the nursing "profession" by the back door—which seems to be always ajar?

Those who, having themselves been elevated, are now devoting themselves to the elevation of the nursing profession, are continually crying into our ears that there is nothing in the whole range of human knowledge that it is not well for the nurse to know—in other words, she cannot know too much. Very well, kind "elevators," all of you. We have had learned blacksmiths, educated cobblers and carpenters, and even "intelligent laymen;" why not have learned nurses, too? But, pray, first tell us, what must she know in order to *nurse?*

You flatter your profession when you tell the novice that she cannot possibly know too much, but you repel the ambitious girl when you give her to understand that she might as well stay three years in your hospital as two, and that it will be all the better for her if she puts off the beginning of her independent professional career a year or two longer. If the figures quoted by Dr. Goodale prove anything, do they not prove that the wrong class of girls is seeking admission to the training schools, that the most capable and promising are applying in the fewest numbers? And yet we venture to say that a good, practical woman could "sort over" the 400 rejected applicants and, with a little sympathy and attention to minor defects, select enough novices to recruit several training schools. Or, is it indeed true that we must meet the intending probationer at the door with the warning that she has one chance in fifteen of ever becoming a graduate nurse?

We admit that these reflections will seem very base and cruel to some worthy people, especially to the hard worked training school superintendent who, at infinite expense of time and thought and after manifold vexations, has completed her schedule of classes and engaged 19 devoted women and 27 doctors of high and low degree to donate their services in the lecture courses—with the dates and topics and all that. But if you only knew how nicely you could get along without nine-tenths of these free show features and how very cheap all your "extras" will look in comparison with the essentials of nursing, you would thank the man who had the impertinence and the nerve to disturb the serenity of your fancy curriculum.

To those who do not hold that our present system of training is perfect—and we believe this really includes everybody—we commend the paper in this issue by Dr. Bristow. It gives us much to think about.

THE MEASUREMENT OF THE CHILD'S TEMPERATURE IN THE GROIN.

WITHIN the last few months a number of instances have been reported in which injury has been done by the use of the thermometer in the rectum, either by unskillful manipulation or by the breaking of the instrument. It is not at all unlikely that many other such accidents have occurred which have never been reported. A broken thermometer in a child's rectum, like a broken glass catheter in the urethra, is a complication to be avoided if possible. An easy way of averting such misfortune, and at the same time obtaining a more accurate reading of the temperature, is suggested by an article read before the American Medical Association at its last meeting, and printed in the *Journal* of the Association by Dr. Albert H. Parks.

Besides the danger from breaking of the thermometer, the doctor mentions several other objections to the taking of temperature by the rectum—objections that will occur to any one—and adds that this method is very unreliable because the bulb is often inserted into a mass of feces, giving a lower reading than the actual rectal temperature.

In order to test the reliability of the temperature as taken in the groin of the child, Dr. Parks made a series of observations on

175 patients, most of them normal, ranging in age from four months to five years. His technic is described as follows:

> 1. The clothing was loosened, but not removed, so as to be free from the groin.
> 2. The groin was wiped dry with a towel to remove all secretions from the skin.
> 3. The thermometer was placed deep in the inguinal fold and the leg allowed to return to its natural position of adduction.
> 4. Readings were taken *in situ* until the maximum reading was reached. We were impressed with the great facility and ease of the inguinal method. The natural attitude of the child while retaining the thermometer in the closed groin made the usual struggling and crying unnecessary, and with but few exceptions, the temperature of the groin was taken without any resistance or disturbance from the child.
>
> It was not found necessary to hold the thermometer in the hand during the process, for the natural close apposition of the thigh to the body retained the instrument in place without any trouble, with the exception of a few cases which showed extreme emaciation. In such a condition more satisfactory results may be obtained from the internal than from the external method. If it is necessary to use the external method, the groin possesses obvious advantages over the axilla.

If any objection to this procedure is worthy of weight, it is the fact that the inguinal method requires six and three-quarters minutes, while the time necessary to take an accurate reading in the rectum is only three and one-half minutes. The author's conclusions are given in the following summary:

> a. The normal temperature of the closed inguinal fold of a child is 98.52 F. (37.5 C.).
> b. The variation of the inguinal temperature from the rectal temperature approximates one-third of a degree F. or two-fifths of a degree C., the average variation being .34 F. (.18 C.). That is, the inguinal temperature is approximately one-third of a degree F. (two-fifths C.) below rectal temperature.
> c. The usual variation between the temperature of the rectum and groin is so small as to be practically disregarded for clinical purposes.
> d. The absence of many objectionable features of the rectal method and the ease and reliability of the groin method gives the latter several points of advantage over the rectal method. These advantages of the groin method would recommend it not only as applicable in hospital practice in pediatrics, but more especially in home practice among children.

The author presents a table compiled from the observations of fifteen authorities, showing that the normal temperature is,
98.81° F. in the rectum,
98.47° F. in the mouth,
98.43° F. in the axilla.

To these figures we may now add,
98.52° F. in the groin.

Oehler had previously published, in *Deutsche Archiv, f. klin. Med.*, bd. 80, hft. 3 and 4, the results of his studies upon a number of cases, showing that the temperature of the skin on different parts of the body varies from about 92° F. on the hands and feet, to about 96° F. on the face and buttocks. These observations were purely surface temperatures, of course.

CORRESPONDENCE SCHOOLS FOR NURSES.

The Gazette has frequently called attention to the inferiority of those nurses who have had all their "training" brought to their doors by the postman. The very best and most thorough educational methods are none too good for the woman who is preparing to do the work of a nurse. Correspondence courses of instruction, whether in engineering, languages, philosophy or any other subject, have serious limitations, and the nurse who depends entirely upon such means for her education is still *untrained* in the strict sense of the word. Nevertheless, this is an age of correspondence schools; all the leading universities are in the work, and many commercial concerns have gone into the business for the sake of the profits. Thousands of students all over the world are industriously following these courses, gaining new culture and with it new social and industrial power. Many women, undoubtedly, are improving this opportunity of studying nursing because there is no way for them to secure the advantages of the hospital training school. We believe there is no question of their inferiority as compared with the graduates of the hospital training school; the real question is whether they have improved themselves as nurses by their correspondence study.

We wish that the trained—and registered—nurse had the field all to herself. But she hasn't. The field is too big. According to the most reliable statistics, the untrained nurses outnumber the trained nurses in actual service in this country by about nine to one. Obviously, until the numbers of the trained nurses are immensely increased, the most of the nursing will have to be done in an inferior way, and by nurses of an inferior type. Is the correspondence school doing a good work for this class of nurses? If it is, it has demonstrated its right to teach nursing—not in competition with the recognized training schools, but in alliance with them, meeting the needs of those who are crowded out of the training schools, and thus doing a most useful supplementary work.

In a recent number of the *New York Medical Journal,* Dr. John H. Wiggins, in quite a lengthy paper, endeavors to give the reasons for the existence of the correspondence schools, and seeks to further justify the work of the schools by referring to its good results. This article is making its appeal to the medical profession through the medical press. The class of schools to which it refers is making a continuous appeal to the public through the advertising columns of our periodicals of all sorts. Is it wise, is it possible, for the trained nurses, of all others, to ignore this appeal and the source from which it comes? We suggest that the matter is one that ought to be specially interesting to those who have to do with the courses of study in training schools.

" 'Tis seldom offered twice; seize, then, the hour when fortune smiles and duty points the way."

THE SOCIAL EVOLUTION OF A DISPENSARY.

In *Charities and the Commons,* for February 9, Dr. Theodore C. Janeway tells how "the awakening of medical charity to full social consciousness" is progressing in the Massachusetts General Hospital under the able guidance of Dr. Richard C. Cabot. The inefficiency of dispensary treatment led to an effort to supplement the medical service by various kinds of social service. Trained nurses and other social workers have been drawn into this work, as related by Dr. Janeway, until now it embraces a number of distinct lines of social service, adding immensely to the efficiency of the Dispensary, and adding to the expense as well.

The article is very suggestive and gives one an idea of the great possibilities of enlarged usefulness in the work of every dispensary or visiting nurse establishment. It is of special interest to nurses, as it points out a line of work in which they are most efficient if not indipensable. He says:

"As an initial step in the right direction, the superintendent, registrar, or head nurse should be required to have at least an elementary training in charity work, such as that furnished by the summer School of Philanthropy, and a thorough acquaintance with the charitable institutions of the locality."

The Pasadena Hospital Training-School, in response to the demand for a higher educational standard for the undergraduate, as for the graduate nurse, stands as one of the few institutions in the West to provide for its students a six months' preliminary course at a technical school of recognized high grade and ideals. This course at Throop Polytechnic Institute embraces six months of work and instruction in those branches which are at the foundation of the nurse's studies, and which constitute a most desirable and necessary preparation for the best professional work.—*Nurses' Journal of the Pacific Coast.*

THE INFLUENCE OF FOOD IN THE PROMOTION OF HEALTH AND IN THE PRODUCTION OF DISEASE.*

By John L. Heffron, A.M., M.D.,
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The question of the proper diet of mankind is still an open one. It has engaged the attention of philosophers since the dawn of civilization. In modern times it has been discussed by all sorts and conditions of men from Pope Leo to "Mr. Dooley." It has become a fad. Every one who has conceived that he had an original idea on the subject has sought and obtained some sort of recognition and has gathered about himself a company of disciples. By one we are told that we eat too much, by another that we eat too little. By some we are adjured to eat less often and particularly to abstain from breakfast, by others to eat more frequently and to imitate the habits of Europeans in this particular. Meat is inveighed against by many, who give a formidable array of arguments, both humanitarian and scientific, to support their contentions, while just as many still commend the consumption of meats and adduce equally powerful arguments in favor of this view. By most, cooking is considered essential to the proper preparation of most food stuffs for human digestion, while others insist that only raw foods should be used, and reap a harvest of vulgar dollars in teaching their disciples how to make appetizing raw vegetables.

While all these notions are popularly discussed, a body of earnest devotees of pure science have ever been working at the problem and from time to time have given the results of their labors for the benefit of all. Necessity, then habit, then false ideas of luxury are responsible for the present mode of living into which we have drifted.

But there is no longer need of groping in ignorance for the truth in the matter of dietetics. Experience has taught much, but it is not the only teacher. By observation, the dietaries of all the nations of the globe for every class of people have been recorded and can be reviewed. By analysis, the value of every substance used for the food of man has been ascertained in the laboratories of scientists of all countries and the records are accessible to every student. By experimentation the relative values of the various classes of food products have been determined. By long continued and painstaking observations of the relation of food to the necessities of man under varying conditions of rest and work, the ideal combination of the various classes of foods and the requisite amounts of each is being worked out.

On this last aspect of the problem there is not yet perfect accord, and further observations extending over a long period of time will be necessary before it can be definitely decided.

Let us review some of the results attained. A dietary conducive to health must contain the elements necessary to build up and repair the tissues of the body and furnish means for the manifestation of its energies. By a knowledge of the substances used as food by man and their analysis, all foods are grouped into five classes — water, mineral salts, proteids, fats and carbohydrates. Water is recognized as a prime necessity, and must be taken in quantities totalling about five pints per day. It makes up from 30 per cent. to 90 per cent. of the solids consumed. The mineral salts are found in sufficient proportions in all of the classes of foods taken. The proteids are the albuminous elements necessary for nutrition, and are represented by the albumin of meats —of eggs—the casein of milk and the gluten of cereals, legumins and fruits. They are sometimes designated as the nitrogenous element of food, because they all contain nitrogen and none of the others do. The fats, from either animal or vegetable sources, are essential for the production of heat and the manifestation of work. The carbohydrates include the extensive group of vegetables and fruits, and are characterized by the presence of either starch or sugar or both. They make up the largest class of foods and are essential for the maintenance of body heat and the manifestation of physical energy.

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*Read before the Graduating Class of St. Luke's Hospital and their friends on St. Luke's Day, 1906, in Utica, N. Y.

Many food substances contain the essential food elements combined—e. g. milk—which contains them all; eggs, which lack only sugar or starch; meat, which contains water, salt, albumin and fat; the grains, which contain all the elements, but in which starch predominates.

To determine the value of the three classes of food, a food unit has been established. This unit is called a calorie, and represents the amount of heat developed by the combustion of enough of any food substance to raise the temperature of a c. c. of water one degree C.

In this way it has been determined that 1 gram of proteid yields 4.1 calories, 1 gram of carbohydrates yields the same amount of food units, while 1 gram of fat yields 9.3 calories.

By a study of the dietaries of man as they are at present, without any attempt whatever to regulate them, it is observed that the total food consumed by a single individual gives an average of 2,000 calories for a man at rest, 3,000 for professional men whose diets have been observed, and as high as 4,000 or even 5,000 for those employed in laborious work out of doors and eating all they crave.

The 2,000 units for mere subsistence were contributed by 75 grams of proteid, 40 grams of fat and 325 grams of carbohydrates. In the diet representing a food value of 3,000 to 5,000 units the proteids were increased to 110 to 160 grams, the fats to 100 or more and the carbohydrates proportionately greater.

Time will not permit, if your patience would allow, further details of this kind. But a review of these fundamental facts is essential for an intelligent consideration of the practical questions that confront us.

In these summaries, from an enormous number of observations in all climates and under all conditions, it has been assumed that they represented the needs of men simply because men consumed so much food under such conditions. But no such conclusions are warranted. Many of you may illustrate in your own experience the fact that perfect health and vigor of body and mind can be maintained on far less food than these tables represent. No public man whose life has terminated within our own generation was a more marked example of the maintenance of health and the keenest intellectual ability to a very great age on a very limited diet than was the late Pope Leo. The experiments of Professor Chittenden have contributed a remarkable chapter upon this aspect of the food question and one of permanent value.

There are certain broad principles upon which all can agree.

To maintain health, a mature man or woman needs just enough food to repair waste and to supply energy and body heat. A growing boy or girl must have this, and enough more to build up his increasing body. In either case, the consumption of more food than is necessary for these purposes entails extra and unnecessary work for the digestive organs, and puts an unwarranted tax upon the organs of elimination. An excess of fats and carbohydrates is liable to upset digestion, but it is possible for them to be digested and stored up in the form of fat and sugar and, up to a certain point, constitute simply an inconvenience. An excess of proteids is usually more harmful, because they cannot be sufficiently elaborated to permit of complete elimination, and they saturate the body with deleterious waste products that are irritating to delicate structures.

Because as children and growing boys we actually need more food, and because in the period of athletic activity we have such a keen appetite, we contract a habit of eating more than our mature bodies need and more than they can comfortably dispose of. Our table habits in the family are a matter of inheritance, and because our active ancestors have dined at "groaning boards" we keep up the habit. Furthermore, there is an old legend that the first woman conquered the first man by appealing to his palate. It's the same old story of the Garden of Eden in most homes to-day—"The woman tempted me and I did eat." The phrase "such as mother used to make" is so familiar that it is good business to make it a trade mark. Food is made so palatable by the art of the cook that we forget that there is any other purpose of food than to tickle the palate. Because meats are so tasty they are consumed in great excess. Look over the menu of any first-class dinner. It is composed, from the soup to the cheese, of articles mostly from the class of proteids, each presenting some delicate appeal to the palate so gratifying that we yield to its attractions without thought. After eating what is considered the hearty part of the dinner, the pastries and confections make another sensuous appeal and tempt one to further excess.

When we stop to think of the absurdities and the wastefulness of the average American table we are appalled. We do not need any argument to prove that we overeat. We know it and realize it too late nearly every day. But, though our minds are convinced, the very next time that we sit at the table, furnished as of old with too many dishes and too much of each, the old habit asserts itself, and in real forgetfulness, even absentmindedness, we eat again until we feel that distention of the stomach to which we have been accustomed and which to the average man is the only sign of having had enough.

It is impossible to lay down hard and fast rules concerning what to eat and how much to eat that will apply to all. Constitutions vary, activities vary, the temperatures under which work must be done vary, and all are factors of importance in the solution of the individual problem. To promote the highest degree of health and physical vigor, each individual must make a personal experiment, under proper supervision, to determine on how little food he can maintain his energies at their highest degree of effectiveness.

Let us quote some of Professor Chittenden's conclusions. You will remember that he experimented with a group of college professors, another of college athletes, and a detail of thirty regular soldiers for many months to determine the lowest proteid ration compatible with full health and vigor. He says in his summary: "Young, vigorous men, can satisfy all the true physiological needs of their bodies and maintain their physical strength and vigor, as well as their capacity for mental work, with an amount of proteid food equal to one-half or one-third that ordinarily consumed by men of this stamp." And again: "The total consumption of food by the average individual, nonnitrogenous as well as nitrogenous, is considerably greater than the real needs of the body of the man." The only argument I have heard against this conclusion is that the athletes and soldiers returned to their "flesh-pots" as soon as they were released from the experiment. But that is not convincing argument. It is rather evidence of the force of habit. It is like an echo from Jack London's "The Call of the Wild." It gives assurance that the race of man can yet proceed far before he will have attained his highest possibilities.

The palate of man is the most over-cultivated organ he possesses. Hot-houses, cold storage, rapid means of communication have gathered together the ends of the earth, so that any substance which will give an unusual sensation to the palate can be had for the asking in any city of the world. How many know the really exquisite flavor of stale bread? How many have experienced the delights of properly cooked vegetables? The Germans—yes—but few besides. It is not desirable to offend the palate, but we can simplify our tastes to the advantage of our health. Under such conditions the appetite may become a safe guide.

To promote health, a reform must emanate from the kitchen. But it will not be a modern kitchen, presided over by one ignorant of food elements and food values, and intrusted to those skilled only in eliciting delectable flavors. The kitchen of the future will be a scientific laboratory, in which a well-balanced meal can be so prepared as to fully satisfy the needs of the body and gratify the palate without tempting one to excesses.

Without attempting a consideration of the many practical questions incident to this presentation of the general principles of the relation of food to the promotion of health, we must turn to the second proposition, the relation of food to the production of disease. This subject is so vast that only a few of its aspects can be outlined.

Imperfect mastication is the first potent factor in the production of disease. It is asserted by high authority that the process of chewing taught early to children and kept up would so strengthen the jaws and enlarge the posterior cavities of the mouth and nose that enlarged tonsils and adenoids would be unknown. Our pap-fed race is inferior in this respect to those who have had the necessity of gnawing bones and milling their own grains with their teeth.

The habit of swallowing food so soon as it can be gotten or washed down the gullet, introduces into the stomach undivided masses that must be thrown back and forth by the muscles of the stomach with great and unnecessary labor until it is either made soluble, or, failing that, is passed on into the intestines and gotten rid of as a putrifying and dangerous mass of waste matter. Such a method of eating constantly irritates the stomach and changes the composition of its normal digestive juices. The secretions of the mouth are digestive to starch, and from their alkaline reaction stimulate the secretions of the acid digestive juices of the stomach. The thorough insalivation of food is as necessary for perfect digestion as is the action of the other digestive secretions in stomach and intestines. The stomach has no teeth and resents the introduction into it of unmasticated food. It expresses its resentment in many forms of indigestion, in gastric catarrh, ulcer of the stomach, simple occlusion of the outlet of the stomach, and, possibly, even in cancer of that organ. Proper food, properly masticated, taken in proper amounts would eliminate this whole category from the ills of man.

A dietary improperly balanced, or insufficient for the demands of the growing child, is often alone responsible for catarrh, rickets, scurvy, imperfect development and many of the deforming diseases of childhood.

Carelessness in the supervision of food stuffs permits the introduction into the body of many of the diseases of parasitic and of microbic origin. All intestinal worms, trichina and the parasites that infect the blood are developed from their eggs swallowed in uncooked foods, either animal or vegetable. Through infected water the typhoid fever bacilli most frequently gain access to the body, while cholera, summer diarrheas, dysentery and occasionally tuberculosis are developed from infected foods, improperly prepared for consumption.

The waste from excessive consumption of food undergoing changes in the intestines, produces a poison that can profoundly affect and even endanger life. Almost the whole category of ills that manifest themselves in joints, muscles and nerves that are commonly called rheumatism and gout are directly traceable to the improper diet of the individual sufferer or of a long line of self-indulging ancestors. Bright's disease is as often caused by intemperate use of meats as it is by the abuse of alcohol. The same is true of the chronic disease of the liver, of the arteries, of the nerves, of the skin and of the mucous membranes.

This isn't a pleasant picture to present to a mixed audience, but it is not overdrawn. These are the problems which are daily presented in the consulting room of every physician of large practice. The therapeutics of food is one of the most important subjects which the wise physician must understand fully.

The knowledge of the component elements of food, of food values and of the most scientific and pleasurable methods of preparing food for the invalid must be attained by every trained nurse. In the present unsatisfactory conditions of domestic economy, the physician must be able to depend with full confidence upon the ability of the nurse to superintend the preparation of an adequate dietary, and, failing skilled help in the kitchen, upon the ability and the willingness of the nurse to do it herself. It is no menial task; it should be looked upon as an accomplishment of the highest value.

In these few minutes two phases of a subject of the greatest importance have been most superficially reviewed. If it shall serve to stimulate your interest in the further and deeper study of this problem, the time will not have been misspent.

A few years ago the New York *Sun*, in an editorial on some new fool notion about diet, observed that if all the fads about diet had been written up and published in books, no library in New York City could contain the volumes. Not faddists, but earnest students of the truth, make the real advances.

In closing, let me leave with you the fundamental fact disclosed in the discussion of every subject that deals with healthful living, and let me give it in the language of that master writer on Hygiene, Dr. Parkes: "In the midst of all our weaknesses and our many errors, we are certainly gaining knowledge, and that knowledge tells us, in no doubtful terms, that the fate of man is in his own hands."

528 South Salina St.

I HAVE found that a nurse who had acquired her experience in only one institution, imagines that there is only one way of doing a thing, namely, that adopted in her training school; it is therefore desirable to select women who have had a little varied experience.—G. M. ROBERTSON, in the *British Journal of Nursing*.

THE DEPARTMENT OF MEDICINE AND SANITATION AT THE JAMESTOWN TER-CENTENNIAL EXPOSITION.

BY R. L. PAYNE, M.D., MEDICAL DIRECTOR,
Norfolk, Va.

THE history of all the great expositions has demonstrated the necessity of establishing as one of its most important factors a department of medicine and sanitation. The character of the architecture, the handling of the very heavy timbers required in bracing the spacious buildings and wide spreading roofs, the great amount of mill work being done, by ofttimes unskilled labor, the very rush of the work and the multitude of men employed during the construction period all lead to the occurrence of many accidents. Humanitarianism demands that those seriously injured shall be cared for, and the very exigencies of exposition building suggest the importance of attending to even small accidents and minor cases of illness promptly on the grounds, in order that as little time as possible may be lost by employers from work that must be pushed relentlessly on. During the exposition period it is none the less important that medical aid be ever at hand. The exposition grounds are daily filled with people of every age and clime, and everything must be done to render safe the coming of the weak and infirm, the old and the young, the careful and careless, the cautious and reckless, for of all such is the exposition throng made up. And so when first the celebration of the ter-centennial of the first settlement at Jamestown was projected, a few earnest and patriotic men carefully considering each necessary step to the successful consummation of their hopes and plans, wisely determined to establish a department of medicine and sanitation and place in control a medical director. The following paragraph from the by-laws of the company defines the duties of the medical officer: "There shall be a medical director who shall have charge of the medical and hospital service of the exposition previous to and during the period of the exposition, and who shall be ex-officio member of the committee on Sanitation and shall have the right to inspect and pass upon all questions affecting the health of the employees and patrons of the exposition." On February 19, 1905, the Board of Directors in annual meeting honored me by electing me medical director of the Jamestown Exposition Company, and I was requested by the Board of Governors to organize the departments of medicine and sanitation. This I proceeded to do at once, under approval of the Board of Governors. The work of preparation has gone steadily on, and it may not be uninteresting to the public and profession to know what has been accomplished and how well they may expect this department to accomplish its work.

The exposition grounds are beautifully situated on high ground fronting on Hampton Roads, and the first thing advised by this department and promptly carried into effect by the exposition authorities was the installation of a complete system of sewerage and underground drains for surface water. All low places in and out of the grounds for a mile around were carefully drained to get rid of all chance for mosquitoes and malaria, and all superfluous vegetation destroyed. I know of no exposition where the work of preparation for the best sanitation has been so thoroughly done and is so complete as that on the Jamestown Exposition grounds. The next thing to be accomplished was the bringing into the grounds of an abundant supply of pure water, and at this point the city of Norfolk stepped in the breach, promptly laying an extension of its water mains a distance of seven miles and bringing to the exposition a supply of water plentiful in quantity and of exceptional purity. The water is drawn from fresh water lakes surrounded by a well protected water shed, and is filtered in most approved fashion before being pumped into the city, so that few cities can boast of a water supply so free from germ life and in every way of such exceptional purity.

The first building projected and the first to be finished as well, was the Pocahontas Hospital, in which all emergencies, either medical or surgical, will receive the necessary attention. This is a pretty little building, exceedingly compact and convenient in arrangement, with offices for the hospital staff, store room, diet kitchen, male and female wards, sterilizing room and operating room on the first floor, while on the floors above are the dining-room, kitchen and sleeping apartments of nurses and resident physicians. The furnishing of the hospital will be complete in every particular. The Kny-Sheerer Company, of New York City, having been selected to furnish the building, they will leave nothing undone to show how completely a modern hospital may be supplied with every comfort and convenience to both doctor and patient, and the visiting physician will see in the Pocahontas Hospital the newest and best in the way of hospital supplies. All surgical dressings, sutures, ligatures, drainage tubes and other necessities for the dressing of the wounds are to be furnished by Van Horn and Sawtell, of New York, and the medical director congratulates himself that he has been able to provide for the exclusive use of goods of such unquestioned reliability.

The beds and mattresses were selected from the stock of Mr. Frank Hall, whose reputation as a manufacturer of this line of goods is among the best.

The staff of the hospital will consist of the medical director and three assistant physicians, all of whom have had previous hospital experience, a head nurse and three assistant nurses. The assistants will be selected from a long list of applicants, all with fine recommendations, so that we have every reason to expect an exceptionally fine service.

Throughout the building and holding of the exposition the greatest attention has been paid to the sanitation of the grounds. Human excretions are carried away by the sewers, while all garbage proper will be burned in a crematory built after the most approved plans. During the exposition period the grounds will be daily inspected by a competent corps of sanitary inspectors. Every toilet room, restaurant, water stand, soda fountain and concession will be daily looked into and every nuisance abated at the cost of the concessionaire. Any failure to comply with the rules of sanitation will mean the forfeit of all privileges within the grounds.

The hospital is connected by telephone with every part of the grounds, and an ambulance will be ready at all hours to respond to emergency calls. It will be seen then that every precaution possible is being taken to insure the health and happiness of the visitor, and all may come safe in the assurance that should emergency arise it will be promptly relieved by skillful attention under the best of conditions.

IMPROVISATIONS.

By Edith M. Rice,
Albany, N. Y.

The following hints, if not already known, may prove useful to nurses:

In case of an emergency, where a bed or douche pan is required at once, a very good one can be made by placing a board across one end of an ordinary roasting pan.

A temporary "Kelly pad" can be made by rolling a sheet tightly the required length and pinning over and around it an ordinary table oil cloth, pinning it at intervals in pleats in order to let the water flow to the vessel beneath.

A new tin steamer makes a good sterilizer for small pads, etc., for use in ordinary minor operations.

A tablespoon made of bright nickel or silver tied to a candlestick behind a wax taper will make a good reflector for use in examining small cavities.

Pads for use in obstetrical beds and other purposes can be made cheaply and freshly out of old but clean newspapers.

A bed pan can also be arranged from an ordinary wash bowl by placing towels, folded thickly, around one side.

A pitcher with a narrow top can be used with fairly good success for douching when it is impossible to procure a syringe.

Breast binders and bandages can be made with towels in place of the ordinary roller bandages.

An operating table can be made of two small tables of the same height instead of using a large ungainly kitchen table.

A resourceful nurse once used a tea pot for a syringe by attaching the rubber tube to the bent spout.

A pickle bottle, the ordinary wide mouthed kind, makes an excellent male urinal.

When nursing in the country it is very easy to procure straws where the ordinary glass drinking tube is unobtainable.

A soap dish is very handy to use in cleaning teeth, washing the mouth, throat, etc., in lieu of a crescent basin.

A sheet folded diagonally and attached to the sides and head of the bed makes a good protective covering from draughts of air. A sheet, being cleaner and lighter, is more desirable than heavier bed clothing.

A missionary doctor from Sumatra once told us of an ingenious method for making syringes. A certain tree, he found, was useful because of its having a soft pith. This he removed. Then taking another narrower tube for a piston rod, he had a very good irrigator.

A salt rub is excellent for its stimulating effects and its delightful reaction. Although given almost entirely in institutions, one can be had at home with good results. Have the patient stand in a tub, and with a watering can pour warm water gently over the body. Then dampen a jar of salt and rub the body thoroughly. Sprinkle again with warm water. Finish with a dash of cold water. Dry with a turkish towel, rubbing briskly until a glow appears.

Broken egg shells dropped into baby's milk bottles assist the cleansing, as cloth cannot easily be pushed in.

When it is necessary to cleanse the urinary and genital regions, instead of using cotton pledgets or gauze, pouring warm water over the parts from a small pitcher is soothing, pleasant and agreeable, while it prevents contamination in objectionable diseases.

Pack wringers can be easily made by cutting an old broom handle in two, shaping each piece evenly to about sixteen inches. Now double a towel and hem the ends for the sticks to slip through. This will make the application of hot cloths very easy and effectual and prevents burning the hands of the nurse.

Do not forget the values of fire and water. With these to help us, we can transform the most undesirable sick room. And while the above expedients will not answer the purpose fully, or take the place of our regular supplies, they may often help us when in a tight place.

THE ALLEVIATION OF THE DISCOMFORTS FOLLOWING ANESTHESIA.*

By Helen I. MacRoberts, Class 1906,
The Lakeside Hospital School for Nurses,
Cleveland, O.

(Reprinted from the *Cleveland Medical Journal.*)

After riding sixty miles by rail and seven miles over rough country roads I arrived at a small tumble down house which sheltered my patient. The surgeon met me at the door and said in a few words that the case was a gangrenous appendix with free pus, and after giving orders as to her care hastened away to the station.

The bedroom had answered as well for an operating room and was in an awful condition. The patient had not yet been transferred from the ironing board, used as an operating table, to the bed. So, taking the oil cloth from the kitchen table, I protected the mattress across the center of the head, and had the patient placed between warm blankets. Following out the surgeon's orders I turned her well over on the right side to allow free drainage and propped her up with a pillow.

On returning from an adjoining closet where I threw the soiled linen, I found her blue in the face. Catching up a pair of scissors from the table and covering them with a towel, I pried the locked teeth apart, at the same time ordering the distracted husband to bring a couple of forks from the kitchen. With these I got hold of the tongue that had fallen back into the throat, and pulled it well forward, allowing the patient to breathe easily and the cyanosis disappeared. With strips of muslin wound around one of these same forks I kept the mouth clear of mucus.

The patient's lower extremities were cold and clammy, and I hastened to the pantry for flat irons. There were only two, but there was a barrel of salt there and an idea struck me. Filling several pans with this salt I put them in the oven and while it heated found flour sacks which served nicely for making pads of this hot salt, and when applied to the patient, took the place of hot water bottles very well.

The patient's eyes were irritated from the ether used. As the husband opened the door of the next room, to get snow from the yard to be used as compresses to the eyes, I noticed a draught directly over the patient. So the next move was to put the bed at the opposite end of the room with the head toward the window, Then, as no boracic crystals were to be had, I bathed the eyes with a normal salt solution.

Again, I noticed the patient was somewhat cyanotic and knowing that it was not due at this time to difficult breathing, I began to think of collapse, and its treatment. First we elevated the foot of the bed and covered the patient with blankets which we were obliged to take from the other bed in the house. Then began a search for stimulants. There was coffee in the house and a bottle of alcohol was produced. Making strong coffee and diluting the alcohol to about 50 per cent. I gave a stimulating enema with a fountain syringe and a rectal tube I had brought with me.

By this time the patient was becoming conscious and commenced vomiting. When she vomited I pressed my hand lightly against the abdomen, thus relieving the pain to some extent while straining. I allowed her to rinse the mouth with cold water and also with a weak solution of listerine made from some brought in my suit case for personal use. Luckily there was glycerine in the house and I applied this to the lips and tongue to prevent them becoming parched.

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*This paper stood second in the competition for the School Prize. Two other papers were printed in the November and January Gazette.

The nausea persisted, and in the absence of acetic acid and a patented cone, I saturated a small towel with vinegar and held it to the patient's nose. But the nausea continued till the second day, when it seemed that nothing else would do but a good cleansing of the stomach. Having no stomach tube at hand, I dissolved a teaspoonful of baking soda in a glass of warm water and repeated the dose, which caused sufficient vomiting to empty the stomach of a fluid resembling bile and mucus.

The extreme thirst caused by this long period of vomiting was not in the least relieved by rinsing the mouth with water and applying wet compresses to the lips, so the next morning, I decided to give a subcutaneous infusion of normal salt solution. I could manage this very well, for the surgeon in packing up his instruments so hastily the day before had left an aspirating needle behind, and attaching this to the tube of the fountain syringe I had a complete apparatus.

Another discomfort suffered by the patient was the tiresome position. Occasionally I allowed her to turn on her back and have a pillow under her knees to lessen the tension of the muscles of the abdominal wall. Putting a folded sheet under the back and a small pad under either shoulder also afforded relief. When on her side a small pillow between the knees was a comfort. Merely slipping my hands under the back produced change enough to rest her.

During the night when I opened the binder, which, by the way, was made of towels, to rub her back, I discovered the wound bleeding. Visions of hemorrhage arose before me and I became thoroughly alarmed, but determined to do the one thing left me to do. Tearing strips of muslin, I boiled them in a basin of water along with a couple of forks and a pair of scissors. With these forks I applied the muslin, packing it as tightly as possible over the bleeding point and put extra dressings over the wound and reapplied the binder as tight as I could pin it. The bleeding ceased and I knew it must have been only a superficial blood vessel, probably caused by the slipping of one of the ligatures when she was so restless.

When returning to consciousness she was very much dazed and was not able to locate herself nor to remember what had happened. I could with difficulty recall the events prior to her operation and was compelled to use all my powers of persuasion and even force to keep her quiet or even in bed.

After the lavage on the second day, all vomiting ceased and the patient was able to take hot water in small quantities, gradually increasing to cold water in large quantities, which I urged her to do for fear the irritating effects of the ether on the kidneys might cause suppression of urine. Liquids were also taken the second and third days.

When the surgeon returned on the third day he pronounced the patient's condition good and when I left her at the end of three weeks I felt that instead of my patient paying me for services rendered I should have paid her for the experience I had had in caring for a postoperative case.

THE PROVINCE OF THE NURSE.

Not every nurse realizes her true place and is willing to stay in it. On the other hand, few doctors are considerate enough to appraise the nurse at her real value and to accord her the position that rightly belongs to her. Who has not seen the ridiculous spectacle of a youthful and chesty medical graduate strenuously asserting his vast superiority over some quiet and unassuming nurse who is old enough to be his mother and smart enough to be his guardian?

A writer in *The Hospital*, whose name we would gladly print if we knew it, voices the thoughts that have come to many a nurse at times when her discretion bade her hold her tongue. But here these sentiments are expressed so convincingly and so gracefully that they cannot fail to impress the most obdurate believer in the divine right of man to lord it over the inferior sex—for in the last analysis this is usually the basis of the absolutism which the doctor seeks to exercise over the nurse.

The real limits of a nurse's province, what it is and what it is not, is sometimes a rather difficult point to decide. It is more often from ignorance than from wilfulness that a nurse takes a long stride and finds, considerably to her own surprise, that she is straying into the province of the doctor. I do not think that anyone who knows anything about the examinations which a nurse has to pass before getting her certificate will deny that a trained nurse must be an intelligent woman. Therefore it is not to be wondered at if, after several years of experience, she is able to do many things which are in reality the work of the doctor. Has she not stood by his side and assisted him dozens of times? She may not have read the text-books on certain operations, but she has observed, and so knows from experience, the various stages and what is needed. Can it be deemed vanity in a nurse if, in her own heart, she feels as she looks at a student or a young house-surgeon, performing his first operation, with none too steady a hand, that she could have done as well, or even better? Not that he did not know his work; but because she had stood by while the same thing had been done so many times till the needful routine had burnt itself into her memory. In an amputation of the finger, for example, the young man in his nervousness, perhaps, has quite forgotten that the tourniquet should be removed before he stitches up. The nurse hesitates ere she hands the stitches, expecting to be requested first to remove the tourniquet. When asked in a very abrupt manner "to be sharp with the stitches," she feels that at this point she would like to ask whether he did not wish the tourniquet removed. But fearful lest she should stray beyond her proper province, she quietly does as she is requested when a remark from one of the surgeons that "it might be as well to remove the tourniquet before sewing up" shows the young operator why it was that the nurse did not promptly hand the stitches. That remark might have been saved had not the nurse felt that she would be exceeding her duty to make the inquiry.

A nurse may know and feel all this, but she must remember that she is still only a nurse. Of course, experience will make her of great value to the doctors she may work under. But she must never let it be said of her that she has overstepped the boundary line by prescribing a remedy for ever such a simple disease, or by giving an opinion upon any matter which belongs to the doctor's province.

But, alas! there are nurses with whom one meets as one goes through the world who have no hesitation in taking upon themselves the diagnosis of a disease and as readily prescribing a remedy for the same. They talk of their cases and successes as another girl speaks of her triumphs at tennis or golf. What is more unprofessional than to hear a nurse say: "The doctor thinks the patient is suffering from such and such a disease, but I'm sure he is mistaken; I think it is so and so?"

Yes, she may think. That is the right of all men and women, and I should have but a poor opinion of any nurse who had a case of observation under her care who did not consider the various symptoms and in her own mind form an opinion as to the disease from which the patient was suffering, but there the matter should end. There are times when a nurse is called upon by the doctor to do certain things which do not properly belong to her province, but it should never lead her to attempt the same things on her own responsibility.

When she acts at the command of the doctor, the responsibility is his. A nurse who in all ways studies to become an intelligent helper to the doctor, a woman who he can feel instinctively has the interest of his case at heart, can hold up her head and look the whole professional world in the face, and fear not the criticism of any man, for she walks fearlessly in her own domain.

CHRISTIAN SCIENCE AND NURSING.

We regret to see that trained nurses have again been concerned in a Christian Science case. In the Central Criminal Court last week a father was accused of the manslaughter of his son. The boy, who was ten years old, was sent home from a day-school unwell, and as he did not improve Frances Maude Turner was called in as a "Christian Science practitioner." Previously Miss Turner had been trained at the Middlesex Hospital for four years as a nurse. She stated that she believed the deceased was suffering from mumps, and prayed over him daily for several days. For this she was paid 4s. a visit, or £1 1s. a week. She was in no way dependent upon the practice of Christian Science from a monetary point of view, and frequently attended people for nothing. No one had appointed her as a practitioner; she had appointed herself. She admitted that she would take no more precautions in dealing with an infectious case than with any others. It is fair to her to mention that later on, as the boy got no better, she asked if the family would like to engage another Christian Science practitioner, or to consult a medical man. Miss Edith Jones, who is described as a "Christian Science nurse," confirmed the opinion of Miss Turner that the patient was suffering from mumps, but he ultimately died of diphtheria. Dr. Birdwood, medical superintendent of the Park Hospital, Hither Green, stated in court that he believed that the nurses were perfectly honest when they expressed the conviction that the child was recovering, and in the result the accused was found "Not guilty" of manslaughter, but "guilty of the misdemeanor of neglecting the child in a manner likely to cause him unnecessary suffering or injury to his health." He was ultimately discharged, but Mr. Justice Grantham signified a hope that "this would be a warning to him and to others that they must not neglect their children or give way to their own particular views." We wish we could think that the warning would have the effect of causing all trained nurses to give the Christian Science movement a wide berth. In the pursuit of their calling they often have the opportunity of mitigating pain or averting fatal results, but when they become Christian Scientists it seems that they cease to have the power to do either.—*The Hospital.*

THE PHYSICIAN'S DEBT TO THE NURSE.

I desire to acknowledge the great debt I owe to the many hospital nurses who have worked so loyally under me. As you are aware, the Medical Superintendent is the supreme authority within the asylum on nursing as on all other problems of administration. I have not only received much loyal service from nurses, but I have learnt a great deal from them, and some of their suggestions have initiated great reforms, for which I have usually received the credit. It is a human failing to grow conservative as we grow older, especially if we occupy for many years the same post, and I have found the intelligent inquiries and suggestions of fresh minds, especially of trained minds like those of hospital nurses, a useful corrective against mental rust and automatism. I have also found that the constant succession of nurses through the asylum, as they were promoted to other asylums, if not too rapid, was an advantage, as each nurse interested herself in a different detail from her predecessor, and in course of time every detail of administration receives attention and becomes perfected.

John Wesley and General Booth, two most successful organizers, had great faith in the advantages of a succession of workers.—Dr. G. M. Robertson, Medical Supt., Stirling District Asylum, in *British Journal of Nursing.*

LOVE ME, LOVE MY DOG.

SAYS the (London) *Hospital:* "The Strood Guardians received on Thursday last a letter from Miss M. F. Blower, who had been appointed nurse at the infirmary, refusing to enter upon her duties because she was informed that she would not be allowed to bring her dog with her. The Guardians not unreasonably proposed to claim a month's salary from her in lieu of notice, but on consideration decided not to press the matter. A young woman who cannot be parted from her dog is altogether out of her element in the nursing profession."

And the *British Journal of Nursing* says: "We own to considerable sympathy with Miss M. F. Blower, who decided not to take up her appointment as nurse in the Infirmary at Strood, Rochester, because the guardians declined to allow her to bring her dog. It is one of the real deprivations of nurses who are animal lovers that they are unable to indulge their desire to have these faithful friends about them. Nevertheless it is a necessity that this should be so as a rule. Except in some instances in the country it is quite impossible for nurses to keep animals, and certainly they should not take it for granted that they can take them with them to new appointments. Miss Blower pathetically wrote: "I cannot part from my dog, she has been my constant companion for so long, and I cannot find any place to board her.'"

Quite a blow for Miss Blower, indeed!

"No one can follow in the footsteps of another. He must work out his own destiny."

NEW YORK STATE NURSES EXAMINATION.

Following are the questions in the last examination, Jan. 29-Feb. 1.

University of the State of New York.

7TH NURSES EXAMINATION.

ANATOMY AND PHYSIOLOGY.

Tuesday, January 29, 1907, a.m.

Answer all of the following questions. Each complete answer will receive 10 credits. Papers entitled to 75 or more credits will be accepted.

ANATOMY.

1 Mention (1) the number of bones in the spinal column, (2) the number of permanent teeth.

2 What is the aorta and where is it situated?

3 Name the organs of the digestive system.

4 What constitutes the nervous system?

5 Name the four principal parts of the brain.

PHYSIOLOGY.

6 What is (1) secretion, (2) assimilation, (3) metabolism?

7 What is bile and where is it secreted?

8 Explain how the products of digestion enter the system.

9 Where is saliva secreted? Describe the action of saliva on food.

10 Through what channels do waste products pass from the system?

MEDICAL NURSING.

Tuesday, January 29, 1907, a.m.

1 Give details in the care of (1) the utensils used in typhoid fever, (2) the mouth in typhoid fever.

2 What is lavage of the stomach? Describe this process.

3 What difference is found in the recorded temperature as taken by the mouth, the axilla and the rectum?

4 Outline *one* method of giving a hot bath to induce perspiration.

5 Describe the preparation necessary for tapping the abdomen and state what must be the nurse's care of the patient during this procedure.

6 Describe *three* methods of locally applying cold.

7 What foods should be avoided in case of rheumatism?

8 How may bedsores be prevented in long illness?

9 What are the best materials for an emollient poultice? State how these poultices should be applied, how often they should be changed and what should be done when they are discontinued.

10 State how *each* of the following diseases is communicated: (1) typhoid fever, (2) diphtheria, (3) scarlet fever, (4) pulmonary tuberculosis.

OBSTETRIC NURSING.

For Female Nurses.

Wednesday, January 30, 1907, a.m.

1 Give your reasons for calling on a prospective obstetric patient. What suggestions or advice, if any, would you give the patient?

2 When in charge of a pregnant patient what conditions would prompt you to call the doctor?

3 How many stages of labor are there? State when each stage begins and ends.

4 In case of port-partum hemorrhage, what should the nurse do while awaiting the arrival of the doctor?

5 What special care should be given the nipples before and after confinement?

6 How may the probable date of confinement be calculated?

7 What antiseptic precautions should be taken in the care of an obstetric patient?

8 Describe in full the care of the baby for the first 12 hours after birth.

9 What should the nurse do in case of hemorrhage from the cord?

10 What care should be given an infant with colic?

NURSING OF CHILDREN.

Wednesday, January 30, 1907, a.m.

1 What special qualifications should a nurse who has the care of sick children possess?

2 Mention *three* distinct objects that a nurse who takes charge of tracheotomy cases must always keep in mind.

3 What may the nurse learn from the cries of a sick child?

4 What may the nurse learn from her observation of the expressions on the faces of sick children?

5 What should the nurse do for a child with diarrhea?

6 Give the nursing treatment of a child with convulsions.

7 Mention the symptoms of intestinal worms. Give the duties of the nurse in caring for a child who has intestinal worms.

8 What is the nursing treatment of pediculosis?

9 What special care should be given a child with chicken pox?

10 What articles should the nurse provide before giving a child a bath?

SURGERY.

Thursday, January 31, 1907, a.m.

1 How would you apply a temporary splint in case of a simple fracture of the femur, supposing that your patient must take a 40 mile railroad journey in order to reach a physician?

2 Describe the method of preparing plaster of Paris bandages. What precautions should be used in applying a plaster of Paris bandage to cover both the ankle and the knee?

3 Describe a method of sterilization of sharp-edged instruments.

4 How would you prepare (1) a patient for a gynecologic examination, (2) a male patient for a genito-urinary examination?

5 What is the difference between a deodorant and a disinfectant?

6 Give the symptoms of a post-operative hemorrhage and describe the treatment that should be given by the nurse till the arrival of the physician.

7 Give method of stopping (1) a capillary hemorrhage, (2) an arterial hemorrhage.

8 Give the routine care of a laparotomy patient for the first three days after an operation when there are no unusual complications.

9 What is appendectomy and how should a patient be prepared for the operation?

10 In a case of fractured thigh, on what parts of the body would bedsores be most liable to occur? What precautions should be used to prevent them?

BACTERIOLOGY.

Thursday, January 31, 1907, a.m.

1 Describe a simple method of disinfecting the hands and tell why the nails must receive special attention.

2 What is the cause of pus in a wound?

3 What are the most ordinary methods by which a clean wound becomes infected?

4 What is the object of sterilization by heat? Describe this process.

5 Explain why it is necessary to boil the drinking water in a country district where there is an epidemic of typhoid fever.

6 Are all bacteria of the disease-producing type? Explain.

7 Explain in simple language the action of yeast bacteria.

8 What is meant by the term immunity?

9 In what way are disease germs thrown off in (1) diphtheria, (2) typhoid fever, (3) tuberculosis?

10 In nursing a patient with scarlet fever or smallpox, what precautions should be used to prevent the spread of the disease?

MATERIA MEDICA.

Friday, February 1, 1907, a.m.

1 Define anesthetic, astringent, diuretic, stimulant, tonic, hypnotic, narcotic. Give an example of each.

2 From a stock solution of formalin, how would you make 32 oz. of solution 1—1000?

3 Mention *three* ways by which medicinal agents may be applied externally.

4 Mention *three* ways by which medicinal agents may be administered internally.

5 Name (1) *three* corrosive poisons, (2) *three* narcotic poisons.

6 Give an emergency treatment of carbolic acid poisoning.

7 Give the main points of an emergency treatment of poison cases in general.

8 Describe the preparation necessary for a hypodermic injection of morphin.

9 How should a normal salt solution be prepared?

10 What is (1) a tincture, (2) a fluid extract, (3) an infusion, (4) a solution, (5) a suppository?

DIET COOKING.

Friday, February 1, 1907, a.m.

1 What effect has cooking on meat?

2 Give recipe for veal broth made from a half pound of veal.

3 State the length of time required to cook properly the following cereals: Rolled oats, Irish oatmeal, steamed rice, cornmeal mush.

4 How would you make a flour ball?

5 Give recipe for making an oyster stew containing a pint of oysters.

6 How would you determine whether or not an egg is fresh?

7 Which is the more quickly digested, a raw egg or a soft boiled egg? Why?

8 Give a recipe for an egg sandwich.

9 Give the general rules for making custards.

10 How would you bake a banana and prepare it for a patient?

A FATAL ACT OF CARELESSNESS.

It is fortunately seldom that an act of carelessness on the part of a nurse has had disastrous results as in the case of an inmate of the Union Workhouse at Ormskirk. The man was suffering from an injured hip, and the nurse had received instructions to apply liniment. She poured the latter into a pot labelled "two tablespoonfuls," and during her temporary absence the patient drank it and died. Another inmate, who gave evidence, said that the deceased inquired if it was for him, and witness replied that, as there was no one in the other bed, it must be. The nurse, in defense, stated that she did not at once rub the leg as the man was having his tea, and that, when she was leaving the ward, she told him not to touch the liniment. The superintendent nurse admitted that it was very unwise to place poison by a patient's bedside, but the coroner to a certain extent exonerated the nurse, and observed that every one was liable to make mistakes. As usual, now that mischief has been done, regulations are to be framed to render the recurrence of such disasters impossible.—*Hospital.*

CORRESPONDENCE.

THE GYNECOLOGICAL SURGEON'S RELATION TO HIS PATIENT.

The following letter has been received from Dr. James E. King, Attending Gynecologist to the General Hospital and the Erie County Hospital, Buffalo, N. Y.:

Editor of the Gazette:

Upon reading the very thoughtful article in your last issue on "The gynecological surgeon's relation to his patient," I am prompted to supplement it with a few suggestions from the point of view of the surgeon himself.

The views of Miss Tufts in regard to the relation of advisor, which the gynecologist should assume toward his patient, are extremely well taken. It is, however, a matter of great regret to the surgeon, that circumstances often do not permit of a closer confidence with his patient. She usually comes to him from an adjoining town, and from the consulting room she goes to the hospital and from the hospital she returns to her home. During her stay at the hospital there is but little or no opportunity for the patient to ask many questions which may occur to her, or for the surgeon to give perhaps needed advice and instruction. Under these circumstances, even though the surgeon is unable to impart the needed information direct, he may do so through the family physician or through the husband. Indeed, upon certain subjects the patient's husband is the proper one to advise and, providing he is disposed, as he generally is, to do all in his power to aid in restoring his wife to health, his instruction and enlightenment will bring by far the best results.

It is particularly unfortunate that many women who marry are so wofully ignorant upon subjects that they should understand. It often happens that when the physician may give advice and instruction, the time when such advice might avail is long past. Such instances impress upon our minds that the young wife should receive her counsel early, before the mischief is done; and the proper one to do it is her mother. The subject of maternity is too often a tabooed topic between mother and daughter, and she obtains her information and draws her deductions from experience and from her ever willing and talkative neighbors.

As to the advisability of telling a patient the exact nature and extent of her operation, in the main it is undoubtedly the wisest thing to do. In this matter, however, the surgeon should be guided by the intelligence of his patient and the causes giving rise to the diseased condition. The physician is sometimes placed in a position of great delicacy when he is questioned too closely as to the cause of pelvic disease, and an absolutely truthful reply may lead to unpleasantness between husband and wife. In malignant disease too, when there is nothing to be gained by explaining the exact nature of the condition it is, no doubt, far better to keep the patient in ignorance of her true state.

There is too great a tendency for a busy surgeon to regard his patient in the light only of a pathologic study. The interest in the patient is centered entirely about the pathological condition, and he thus does not take into account the element of individual personality, but "treats the disease, and not the patient." It is left for the nurse to study the patient, and many times it may lie in her power, by hint or suggestion, to help the physician to a clearer understanding of his patient's individuality and her needs.

James E. King.

1248 Main St.

THE NURSE'S DIET.

Editor of the Gazette:

In some of the comments on the article concerning food for nurses, written in the *Ladies' Home Journal,* there appears to be a vast amount of resentment toward the sentiments expressed; but it seems to me from a nurse's standpoint that it is an article which no right-minded nurse could resent, because we all of us in our rounds of hospital life and work have seen the disastrous ruin of the health of some young nurses who were accustomed to good, wholesome food, well cooked, in their own homes. I have known nurses to work for eighteen hours without any other diet than milk, simply because the housekeeper was under the direction of an incompetent superintendent who had only had six months' work as a superintendent. He was selected by a Board of Directors who were political bosses, and he himself had been a ward boss for some time. The entire stock of knowledge of board and superintendent consisted of how to economize, and they began on the nurses; consequently the nurses were sufferers. That thing continued for nearly six years, until he had used up all his surplus strength changing housekeepers and superintendents of nurses.

There are so few superintendents who have time to attend to the actual details of the diet service of nurses. I know of one other hospital which had for its superintendent an old soldier whose whole aim in his one year's administration was to cut down expenses. (Praise the Lord, he had but one year.) His superintendent of nurses was very capable of suggesting changes, but would he let her do it? Oh, no; the old fellow would take a pencil and paper and write down the menu for the day and present it to the housekeeper to carry out and cook. It read, day after day, something like this: Breakfast, coffee, bread, butter, soft-boiled eggs, potatoes. When it came to the table it looked just like this and smelled worse: Hard-boiled eggs, bread, butter (too strong to eat), coffee that was made over from yesterday, potatoes fried in fat and the fat stale. Out of fifty nurses who entered that dining room at 6.30 A.M. not one could touch this food. For 365 days in the year the nurses drank milk, then, presto, a new superintendent of nurses; and then the superintendent of the hospital was compelled to leave, chiefly "on account of his health," but really at the earnest request of the doctors, who had investigated some of the "vittuals."

The *Ladies' Home Journal* investigated, no doubt, every line of hospital work, methods, and diet-lists, before it printed any comments. There are hospitals that cannot be criticised, but there is a majority that can be, and it is a large majority. A superintendent who says that the diet in the hospitals is tiresome but wholesome, that there is no variety and that this is why nurses complain, deserves to be laughed at, for it is that superintendent's own fault. Some one says, Should we serve dainties? Surely not, but nurses would be more fairly treated if they had an appetizer once a month, when it is entirely in the power of the superintendent to do such acts of thoughtfulness and kindness. Many superintendents do; but there are a large number whose time is taken by bookkeeping and other duties, and they are very human!

Let us not resent the article in the *Ladies' Home Journal,* but submit kindly and do what we can to readjust the matter in the eyes of the public. I feel doubly certain that the basis of the article was gotten from a very bright member of the nursing profession, one whom many of us admire and who has done much to change the whole atmosphere of one of the largest of our hospitals, and knows whereof she speaks. There are nurses who cannot submit to the criticisms of nurses, but I say unto such: Come out to Texas and do pioneer work and hear some of the criticisms of the nurses who work and work hard, and I can hear you say, in one year's time, "I am sorry I spoke."

I know of very few professions where there are not some "black sheep," and, besides, the *Ladies' Home Journal* has to have something for its columns that will attract the attention of the public. Don't we all know that it has increased its price of subscription and has to print an extra or two? I for one would be willing to pay for an article like that, for it is only through our mistakes and the criticism of the public that anything is really accomplished. To those who do not relish this particular subject of food, I would like to say that it reminds me of the man who was going to lick his wife—he'd lick her if she had fed the hogs, and he would lick her if she had not—he'd lick her any way. As a nurse, I fear we will get our licking any way, and it is best not to be too obstinate.

I know full well that cake does not come into hospital diet, but it would not harm any healthy nurse to eat a piece of molasses gingerbread once a month, and it would taste so much of "Home, Sweet Home." I think, as a probationer, I would have welcomed even the smell of it and felt that I was nearer my old New England home.

I wish the DIETETIC GAZETTE a happy and prosperous New Year, and thank those who write for its columns so many helpful articles. I hope that they will continue right on for many years.

Sincerely yours,

JENNIE S. COTTLE.

St. Joseph's Infirmary, Houston, Tex.

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

Unconscious Patients.—Before putting an unconscious patient to bed, the hot water bags should be removed or sufficiently covered to prevent the occurrence of a burn.—*American Journal of Surgery.*

Measuring Medicine.—Medicines should never be dropped, but measured in a minim glass, as drops do not correspond accurately to minims, and a considerable difference may be made in the amount administered.—*Brit. Jour. Nursing.*

Cheap Obstetric Pads.—A good grade of cotton waste, at seven or eight cents a pound, such as is used by engineers for cleaning purposes, can be made absorbent by boiling in a soda solution, and makes an excellent foundation for obstetrical delivery pads.—M. V. Macdonald, in *Nurses' Jour. of the Pacific Coast.*

Acute Appendicitis.—"All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth, as well as the use of large enemata, in cases suffering from acute appendicitis."—Dr. A. J. Ochsner, in *Jour. of the Mich. State Med. Society.*

Removing Oil Spots From Marble.—Saturate fuller's earth with a solution made of equal parts of soap liniment, ammonia and water. Spread over the spots and use an iron sufficiently hot to heat through the mass. The solution takes up more or less of the oil. As the solvent is evaporated the application must be repeated as often as necessary. It should be kept in position for several hours, and may be renewed at the end of several days.—*Nat. Hosp. Record.*

Feeding After Abdominal Operations.—Food may be introduced (1) by the mouth, (2) by the rectum, (3) subcutaneously, and (4) by inunction.

Oral Feeding.—For practical purposes it may be taken that the stomach is incapable of digesting food for several hours after an abdominal operation; and even then the digestive power returns very slowly.

Nothing should be given by the mouth until the post-operation vomiting has ceased. When this cessation has occurred, the patient may be allowed small sips of hot boiled water; and if these do not cause nausea or sickness, feeding by the mouth may be commenced cautiously. But care must be taken to give food which can be absorbed with the least amount of effort.

Raw milk is one of the worst possible foods for these cases. It is teeming with bacteria, it forms solid curds in the stomach, and therefore is difficult to digest and it does not stimulate peristalsis, so that constipation and tympanites result. Excepting the first, boiled milk also has these drawbacks. The following are suitable for administration after abdominal section: Albumen water, dextrose solution, lactose solution, raisin tea, raw beef juice, thin Benger's food. Gelatine, plasmon, and other similar preparations may be useful also.

Albumen water is made by beating up the whites of three eggs in a pint of cold boiled water, and adding a little salt or lemon.

Dextrose and lactose may be given in a 10 per cent. solution in water.

Rasin tea is made by pouring water on to half its bulk of chopped raisins, stewing this for two hours, and then straining.

Raw beef juice must be prepared only from perfectly fresh meat. The beef juice should be mixed with some ordinary beef tea or meat extract, and should be suitably flavored.

Rectal Feeding.—Often it is impossible or undesirable to give a patient a full supply of nourishment by the mouth, and consequently rectal feeding must be used. Half an hour or an hour before giving a nutrient enema, the bowel should be washed out with warm water. In the actual administration of the nutrient enema, particular care must be taken not to introduce the fluid too quickly, or the rectum will rebel and refuse to retain the injection. The best method is to let the fluid run in from a glass funnel attached to a soft rectal tube, the funnel being held no higher than one foot above the rectum. If given slowly and carefully in this manner, as much as one pint may be retained by an adult. Albumen water with a teaspoonful of salt to the pint, or with 5 per cent. dextrose added makes the best enema, for it is unirritating and is easily absorbed.

Subcutaneous Feeding.—The technique of this is precisely the same as that for subcutaneous injection of saline solution. The fluid used consists of 5 per cent. dextrose in normal saline solution, and must be boiled before injection. Subcutaneous feeding is of value when attempts at rectal feeding prove failures or are insufficient, or when it is expedient to administer as much nourishment as possible with the least delay.

Inunction.—In infants and young children fat can be introduced through the skin by inunction. The method is rarely employed in abdominal cases, but it may be useful in congenital hypertrophic stenosis of the pylorus, where death from starvation is threatened. The skin of the back, chest, or thighs is washed with warm water, and some cod-liver oil or olive oil is rubbed in with the hand. The process may be repeated as often as necessary.—DR. HAROLD BURROWS, in *The Hospital.*

POSTURE IN POST-OPERATIVE TREATMENT.—Dr. Maclaren says: As Mummery well states in his *After-treatment of Operations,* referring to the position of a patient following operation, "The position of greatest comfort is also that of greatest rest, and therefore the best." This is an excellent general statement of an important truth. It is generally applicable, and it certainly applies in many cases where it is not made use of.

The lateral position is the natural position of rest for most people. The patient lies on his side, the under leg well flexed, while the upper leg and the trunk are slightly flexed. It is generally desirable to allow the patient to take up this position whenever possible, especially should it prove to be the most comfortable one.

The dorsal recumbent posture is generally regarded as the correct one to give a patient after operation. Unless there are special reasons for its adoption it should not be selected, because most people rest and sleep better on the side. It is generally irksome and uncomfortable, urination is difficult, and the skin of the back over the sacrum, vertebræ, and angles of the scapulæ is not well adapted for bearing pressure.

The prone position is occasionally of use, as in draining wounds open anteriorly, such as psoas abscess and appendix abscess, or to avoid bedsores; or, if these be already present on the dorsum, to allow of healing. Here the patient lies on his front, with a pillow under the chest and another for the side of the head. Allingham is quoted in reference to the value of this position after injuries to the femoral vessels. He resected a portion of both femoral artery and vein in removing a tumor of the femur. The patient was placed in the prone position to avoid pressure interfering with the establishment of the collateral circulation in the gluteal region and back of the thigh. The case resulted in recovery of the limb.

The semi-recumbent posture is suitable for elderly people to avoid pulmonary complications, and in those cases where operation may have interfered with free thoracic and diaphragmatic movements, such as breast and stomach operations. Here the patient is supported by a bed-rest in a half-sitting position, with a pillow under the thighs to prevent slipping down, and to assist in relieving undue pressure on the sacrum by thus allowing a portion of it to be taken on the under surface of the thighs.

Placing the patient on an incline, with the head upwards, gives improved drainage in operations on the pleuræ such as empyema, and in drainage of the vagina following hysterectomy and other pelvic operations.

Inclining the patient with the legs elevated is favorable for the treatment of various conditions of the lower extremities such as varicose veins, venous thrombosis, and ulcers.

It will be found that inclining the patient with the hips raised and the thighs flexed over a pillow proves a comfortable and suitable position following operations of inguinal and femoral herniæ and operations on the scrotum and its contents. Pressure is removed from the area of operation and the tendency to oozing is diminished.

For vomiting after anæsthesia, turning the patient on the right side will facilitate the passage of the stomach contents onwards to the duodenum; if the vomiting is intractable, propping up the patient may suffice to arrest it.

For shock following operation, the best position is that of inclining the patient with the head lowered and the legs and abdomen elevated. In this way the blood in the veins of the lower limbs and abdomen is aided in its passage to the heart.

For intestinal obstruction due to adhesions following laparotomy, Watson Cheyne recommends placing the patient on an incline with the view of putting a strain on the adhesions for the purpose of stretching them. The direction of the incline should vary according to the seat of obstruction; hence in a pelvic case the Trendelenburg position would be used.

After laparotomy, in many cases, the dorsal position is not required; the semi-lateral position, by simply rolling the patient partly to one side and supporting the back by a pillow is frequently the most comfortable, is much appreciated by the patient, and is free from objections. In other cases the lateral posture may be assumed.

Fowler's position is the placing of a patient in the semi-erect posture at an angle of 45 degrees or less, and maintaining him there by means of supports and pillows. By this means, in septic abdominal cases, the septic fluids from the absorbent and dangerous area of the diaphragm and upper abdomen are drained to the less absorbent and safer area of the pelvis, and allowed to escape by a large suprapubic drain which passes to the bottom of the pelvis. The employment of this position constitutes an important advance in the treatment of septic peritonitis.

The postures which have been mentioned do not constitute by any means a complete list. It is difficult to lay down a basis of selection, and it hardly seemed of service to refer specially to certain familiar examples, such as the lithotomy posture.

In regard to fractures, the position assumed should be such as to relax the muscles causing the displacements.—*The British Journal of Nursing.*

Book Reviews.

A Practical Treatise on Materia Medica and Therapeutics, with Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association and the British Medical Association; Fellow of the Medical Society of London, etc., etc. Sixth Edition. Thoroughly Revised. (In Conformity with Latest Revised U. S. Pharmacopœia, 1905.) Royal Octavo, 1244 pages. F. A. Davis Company, Philadelphia, Pa.

Dr. Shoemaker is to be congratulated in that his admirable work on materia medica and therapeutics has reached its sixth edition; the active practitioner in having so comprehensive a work of reform; the medical student in having so valuable a text-book. Great changes are noted in works on treatment within recent years, and this branch of medical science is indeed forging ahead of numerous specialties.

There has been in recent years a disposition on the part of some of our teachers of restricted special work to decry drug medication, the claim being made that it is more often injurious than helpful; that surgery is the only scientific branch of medicine, but we believe that internal medicine —the general practitioner—is becoming the most important and useful branch of this science. Nihilism in therapeutics has had its day, and we are growing more and more to appreciate the man who knows his physiology as well as pathology and the physiological action of drugs.

We have in Shoemaker's materia medica and therapeutics treatment in its broadest sense. Not only drugs so called, but remedial measures, such as electrotherapy, Roentgen rays, Finsen light, serumtherapy, animal extracts, mechanotherapy, hydrotherapy, climatology, psychotherapy, heat and cold, diet and various therapeutic measures almost forgotten which should be restored to the progressive physician's armamentarium. A careful study of this work will advance the usefulness of any physician.

Tropical Medicin, with Special Reference to the West Indies, Central America, Hawaii and the Philippines, including a General Consideration of Tropical Hygiene. By Thomas W. Jackson, M.D., Lecturer on Tropical Medicine, Jefferson Medical College, Philadelphia; Member of the American Society of Tropical Medicine; lately Captain and Asst. Surgeon, United States Volunteers. One hundred and six illustrations. P. Blakiston's Son & Co., Philadelphia, 1907.

The last few years, or since the annexation of the Hawaiian Islands and those possessions following the Spanish war, we have encountered problems in the study and treatment of diseases before unknown and of no practical interest to us. The study of tropical diseases such as exist in these possessions has therefore become of not only vital interest, but of necessity compulsory to those who may contemplate a residence in or temporary visit to these islands. The inhabitants have become a charge, and it will be our aim to not only instruct in agriculture, commerce, etc., but in hygiene and prophylaxis, and to this end a number of our larger medical schools have established lectureships and courses of instruction in these diseases. Prophylaxis and hygiene will—indeed, must play an all-important part in the control of such diseases as cholera, beriberi, plague, dengue, tropical dysentery, leprosy, malarial disease, yellow fever, etc., not to mention those diseases due to animal parasites.

This book seems to us to treat of these diseases, their prevention and cure in all essentials from the standpoint of one who understands them. We say seems, for the reviewer knows absolutely nothing of them other than he has learned from recent literature.

The book has numerous illustrations, is well bound in cloth and contains 520 pages with a copious index.

Text-Book of Anatomy for Nurses. By Elizabeth R. Bundy, M.D., member of the medical staff of the Woman's Hospital of Philadelphia; gynecologist New Jersey Training School, Vineland; late adjunct professor of anatomy, and demonstrator of anatomy in the Woman's Medical College of Pennsylvania; formerly superintendent of Connecticut Training School for Nurses, New Haven, etc. With a glossary and 191 illustrations, 34 of which are printed in colors. Philadelphia, P. Blakiston's Son & Co., 1906. $1.75 net.

This book of 252 pages, including the glossary and index, certainly contains all the anatomical details that any nurse should be expected to learn. Indeed, we trust that no training school, present or future, would require its pupils to attempt anything like familiarity with such a course, for it would be most difficult and unreal without the requisite amount of dissection, or demonstration from the cadaver, or a first class manikin.

Considered as a reference book, therefore, to be used as one might use one of the standard anatomies in connection with a course on the bare essentials of anatomy, this volume is very appropriate and might well replace the more expensive and cumbersome manuals of anatomy. The illustrations are clear and exact, the descriptions are brief and, in the main, accurate.

One is considerably surprised to see in a book on anatomy a chapter of four pages on "Foods and Digestion," which, the author assures us, "is introduced in response to a request."

The book is well gotten up and ought to yield the answer to any reasonable question that nurses are likely to ask concerning human anatomy.

Obstetrics for Nurses. By Joseph B. DeLee, M.D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. Second Revised Edition. 12mo of 510 pages, fully illustrated. Philadelphia and London, W. B. Saunders Company, 1906. Cloth, $2.50 net.

This book, considerably larger and better than the first edition, is of service to the student and practitioner of medicine as well as to the nurse and midwife. It often happens, unfortunately, that the physician who has a creditable knowledge of his own duties as obstetrician has very hazy ideas as to the duties and limitations of the nurse; the result may be more unfortunate to the patients than to their attendants. Dr. DeLee's book is specially valuable because he treats his subject from the viewpoint of the doctor as well as the nurse, and takes commendable care throughout to distinguish between the duties belonging to each one respectively. He wisely points out, however, the best course for the nurse to take under the most trying of all conditions—when the doctor is absent but expected to arrive at any moment.

It is impossible in a few paragraphs to present an adequate idea of the scope of this book; it discusses the care of the normal woman from the beginning of pregnancy until the end of the puerperium, and of the infant from the incubator stage until the nurse is no longer in demand; complications are fully treated and the nurse is prepared as well as a book can prepare her for all manner of emergencies pertaining to this class of cases.

The author expresses his belief, on page 88, "that obstetric nursing requires higher skill than any other form of nursing, comprising, as it does, surgical, medical and infant nursing. It is more arduous, surely." True to this principle, he has written his instructions most conscientiously and no nurse need fear to follow them in the same spirit.

The value of the book is greatly enhanced by a chapter (which deserves a better place than the appendix) on "Visiting Nursing in Obstetric Practice," in which the methods of the Chicago Lying-in Hospital and Dispensary are briefly explained. In the Gazette for July, 1906, on page 437, is an article by Miss Isaacson describing Dr. DeLee's excellent service in this institution. From this article and from the book before us it is evident that the technic here in vogue is as near faultless as any that could be advocated.

But the author excels in common sense and thoughtfulness as well as in technic. On page 127 he gives some very sensible hints on perineal lacerations. On page 297, writing on the care of cases of puerperal infection, he says: "The nurse should insist on getting at least six consecutive hours of sleep daily and several hours of recreation in the sunny part of the day, which should be her opportunity to go out and revivify her blood with fresh air and sunshine. The patient, too, will be better for it."

A well selected dietary and a serviceable glossary add to the completeness of the book. The many illustrations are very practical. The book is a handsome product of the printer's art.

Plaster of Paris and How to Use It. By Martin W. Ware, M.D., Adjunct Attending Surgeon, Mount Sinai Hospital; Surgeon to the Good Samaritan Dispensary; Instructor in Surgery, N. Y. Post Graduate Medical School. 12mo, 72 illustrations, about 100 pages. Surgery Pub. Co., 92 William Street, New York City.

This booklet of some 80 pages is written by one thoroughly competent to tell all about how to use Plaster of Paris in surgery. This fact is clearly shown in the text. There are numerous illustrations which aid very materially to a perfect understanding of the technic of applying Plaster of Paris in bandaging, in fractures and dislocations. A chapter on the use of Plaster of Paris in dental surgery is also given.

International Clinics, Vol. IV., Sixteenth Series, 1906. J. B. Lippincott Company, Philadelphia and London.

As usual with this publication, this volume contains most excellent papers: Five on Treatment, seven on Medicine, five on Surgery, three on Obstetrics and Gynecology, one on Laryngology and one on Otology. It would be difficult to select those of greater interest to the reader; they are all of value and can be read profitably by any one interested in medicine or its various specialties.

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THE
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TO WHAT EXTENT ARE WE INDEBTED TO GERMS.

By J. W. Wainwright, M.D.,
New York.

Germs or bacteria belong to the vegetable kingdom; a small class of a low order of plants, which are of such vast importance to the world that their study has become a science in itself. Upon their activity is founded the existence of all animal and vegetable life. Scientists were undecided for years as to whether bacteria were animal or vegetable; indeed, they have characteristics of both kingdoms. Like animals, they subsist upon complex bodies; while, like vegetables, they grow and take form. The absence of chlorophyll, the green coloring matter of plants, mislead many, but the discovery of spore formation by the microscope, determined their classification as vegetables.

The intelligent study of germs, bacteria or microbes, as they are variously called, began some ten years ago. It is true that Leuenhoek, a microscopist, discerned living organisms in animal tissue something like two hundred years ago, but he was not able to clearly describe them, and but little attention was given to his observations, for the reason that the limited knowledge then existing was not of such a character as to permit of these observations being verified. Later, Schwann called attention to the part played by the microorganisms in fermentation and putrefaction; Fuchs studied the organisms which were instrumental in producing blue milk, while Henle asserted a connection between various diseases and microorganisms. Liebig declared that fermentation and putrefaction were due solely to chemical changes, but this conclusion referred to the fungi of yeasts, and not to bacteria, as we now understand them. Yeasts are similar to bacteria, but differ in that they are reproduced by spore formation, while bacteria mostly through fission. Pasteur claimed that these processes (fermentation) resulted from the presence and multiplication of microorganisms; that these organisms, whatever they were, come into existence solely by reproduction, and not by spontaneous generation, as had been believed by many, but Bucher demonstrated a ferment in the liquid resulting from crushing and destroying the yeast fungus, which is capable of producing fermentation identical with that of the living yeast plant. We are not, however, so much interested in this paper in the yeast fungus or plant as in germs or bacteria.

To Pasteur we owe the beginning of our intelligent knowledge of these germs, for it was he who demonstrated the part they play in the causation of certain specific diseases; our ability to identify certain species with existing pathological or diseased structure, as well as to clearly define the part they play in fermentation and putrefaction changes.

Bacteria are grouped under three general forms: Spheres, resembling billiard balls; rods, having the appearance of lead-pencils, and spirals, reminding one of corkscrews.

The spheres vary in size and have different ways in which to group themselves; while the rods vary in length and thickness, and the spirals, in the number of coils, as well as in the motility of the coils. They are so small that they can be seen only with the aid of high power microscopes, and then often only after they have been stained, being otherwise translucent bodies. They increase by simple division or fission. The spheres will elongate and divide in the center; each half repeats the process of division, some dividing at right angles to the first division, and again at right angles, thus forming groups of 2, 4, 8, etc.

Some are detached at once upon division, while others cling together, and thus have the appearance of a string of beads; others remain in groups. The different species are recognized by the method of division, and have distinct names.

The rod form of bacteria multiply by division, some being detached at once, as are the spheres, while others remain attached, forming threads or chains. This is the rule, also, in the growth of the spiral form. They increase through this method of division to an incredible number, dividing, in some instances, every half hour. If one will take the trouble to calculate the number which would be produced in this way, he will find the astonishing sum of more than 16,500,000 resulting from one bacterium in twenty-four hours, or nearly 282,000,000,000 in number, or about a pint measure full in two days, weighing about one pound. At the end of the third day the almost incredible amount would reach 47,000,000,000,000, or 16,000,000 pounds.

If this rate of increase were allowed to proceed, it can be readily seen that it would be only a question of hours, and but a few hours, when the body would not be able to contain them. Fortunately, their increase is checked by two main causes; lack of nourishment, they having exhausted the supply of available food, and death from products which they themselves produce. This marvelous increase is due to the character of food upon which they feed. Usually, plants have to manufacture their food from the elements, while animals are compelled to search for theirs; but bacteria feed upon highly organized food, food which the life processes have prepared for our sustenance, and which is ready for absorption. During their growth, they cause chemical changes to take place in this food, and extremely poisonous substances are sometimes produced, which are known as ptomains and toxins.

Many bacteria have the power of motion through flagella, or a lash-like appendage, and to this characteristic was due the opinion of some observers that they are animal, rather than vegetable organisms.

These microorganisms are to be found universally in nature. They are in the soil, in all bodies of water, salt as well as fresh water. They abound in streams of running water more than in still water, thus destroying the theory that running water purifies itself, in so far, at least, as germ life is concerned. Running water is continually supplied with germs through the smaller streams which drain the surrounding country, carrying all that has accumulated on the surface of the soil; while in still water, they are devoured by one another, or one kind by another kind, until finally, but a comparatively few remain, and these gradually settle to the bottom. They are in the air, and every motion causes them to arise from the ground. They settle on the clothing and are again set in motion by brushing or movement. They are, of course, to be found in great numbers in all decaying animal and vegetable matter. They exist in great numbers in the mouth, stomach and intestines, as well as upon the surface of the body; in the hair; beneath the finger nails and in the secretions. Flies carry great numbers from place to place upon their feet, thus transmitting many diseases, particularly typhoid, tuberculosis, etc. They are harmless, however, under ordinary circumstances. But let them come in contact with a suitable food or soil, and moisture, and, as we have seen, they will multiply with incredible rapidity.

During the growth of bacteria, as has been referred to, they cause changes to take place through chemical agencies, pulling to pieces the huge albumen and other molecules, setting free the atoms, which at once proceed to rearrange themselves, entering into new combinations, producing new compounds. To this property of the germ, do we owe much, for were it not for these changes we would not have the preparation of articles for use as food, or many articles of commerce, such as jute and hemp, etc. Through this action, the gummy substance which holds together the fibres of vegetable substances are softened, so that changes can take place through the action of the elements in the preparation of food, as well as the separation of the fibres in hemp, etc. In the preparation of the sponge; in the making of leather; the production of alcohol by yeast (a microorganism closely allied to bacteria) we are dependent upon the changes which take place through the agency of the germs. Again, in the production of vinegar, we have to depend upon this activity, as well as in the production of numerous acids, such as lactic from milk, butyric from butter, etc. In the manufacture of indigo, we have a product of bacteria fermentation, while the sweating process, to which tobacco is subjected, and which is necessary in order to obtain the flavor which is so much enjoyed by smokers, is due to chemical changes brought about by these organisms. They play an all important part in not only the curing, but in the growth of tobacco. Some are undesirable and destructive, while others are necessary.

Different bacteria produce different flavors in the same tobacco, as well as is the case elsewhere, and again, the same bacteria will produce at different times a different flavor, or results, in the same article. Experience has demonstrated that bacteria from a high grade tobacco, transplanted on the poorer grades, greatly improve the quality. These bacteria are found in the soil as well, and it would seem that further experiments would lead to improving the grade of tobacco by infecting the soil and inoculating the plant with the germ from cultures obtained from tobacco of high grade and fine flavor. The experienced handler of tobacco will often correct defects in the process of "curing," by special manipulations, without being aware of the disturbing cause.

The custom of heating fruits, vegetables and meats to a high temperature, and then hermetically sealing them in tin cans or glass jars, although an old custom and one practised years before we understood the part played by microorganisms, is scientifically correct; for to first destroy the bacteria by heat, and then to carefully seal the containers so that others may not gain access to the contents of the can or jar, is to prevent fermentation and putrefaction.

In this connection, I wish to call attention to the tenacity of life possessed by these minute organisms. They are completely destroyed at a heat of 212 degrees, or the boiling point of water, but resist cold in a way altogether remarkable. When certain ones are immersed in liquid air at a temperature of—190 degrees C. or—312 degrees F. (below zero), a cold sufficient to destroy all other forms of life, and exposed to this degree of cold for an hour, and then released, it is found that their power to multiply under ordinarily favorable circumstances is not destroyed, or, indeed, affected. This experiment disapproves of the hope once entertained that liquid air would prove a germicide. Bacteria, it must be remembered, however, usually multiply, as elsewhere stated, under the influence of a favorable temperature, and moisture usually 60 degrees or more, and the presence of proper food. When deprived of these essential factors, they are dormant. Because of this fact, meat, milk, vegetables, etc., are kept in a temperature below 50 degrees, and when so kept, remain good for varying periods, usually quite a considerable time.

Bacteria have been found in the ocean at the depth of 3,500 feet, as well as near the surface. Sunlight soon destroys them, however, and thus few can be found near the surface. They have been found to multipy in these bodies of salt water at a temperature of zero C., or 32 F. It is probable that these bacteria play an important part as scavengers in decomposing dead organic matter in the sea, similar to the action of land bacteria, for how otherwise would it be possible for life in the sea any more than upon the land?

The action of bacteria in the souring of milk has received a great deal of attention from scientists, not alone because of scientific, but largely for commercial reasons. We have varying results from different species—one kind of bacteria causing curdled milk which, it will be remembered, is not necessarily sour milk. Again, milk will become bitter or tainted. At another time, it will develop a soapy taste; and again, it will become blue, red or yellow, all these effects being due to differing species of bacteria which come from filth on the cow, from dust in the handling of hay, from the atmosphere, and from various other sources.

In the industry of butter-making, the presence of bacteria is necessary in order to insure the pleasant taste and flavor so enjoyable in good butter and cream. Creamery butter made from milk which has not undergone the changes produced by germs (souring) is lacking in this desirable taste and flavor. Here, again, we have the different species of bacteria producing dissimilar and sometimes undesirable changes in the souring of the cream, the quality of the cream or butter depending upon the character of germs which infect it. Experiment has here also demonstrated the fact that the quality can be influenced by the introduction of pure cultures of bacteria from high grade butter into the milk. The manufacture of cheese is dependent upon the presence of bacteria for its peculiar flavor, and is subject to the influence of the various kinds of bacteria, some producing the choicest products, while others are destructive. Here, also, bacteriologists have found that inoculation from pure cultures from desirable qualities of cheese can be made to the casein of milk, and a like cheese produced to that from which the culture was obtained.

Certain species of bacteria produce agreeable odors, some resembling that of fruit; one kind developing in favorable media, a strong ethereal odor identical with that of apples; another kind will disolve and decompose coagulated albumen, attacking the albumen and the carbohydrates simultaneously, producing such a quantity of ammonia that the acid formed from the carbohydrates is neutralized. It splits up the chemical combination in urea and produces nitrogen. Indican, a substance identified with indigo, is produced by bacteria; as are the acids of the body so necessary to our well being mainly produced by them. The bacillus pyocyanius produces pigments; one, a fluorescent; another, the blue pigment pyocyanin, which, upon exposure to oxygen, becomes changed into a reddish brown; this again being changed to green by the action of sunlight. A watery solution of this substance pyoxanthin is changed to blue upon the addition of chlorin, while chloroform solutions of the same substance are changed to a bright yellow.

Bacteria are everywhere, and have existed since life existed; in fact, without them there could be no life. They are as essential to plant as to animal life. By their never ceasing activity, the elements are adjusted to furnish life and growth. By their action as scavengers after life has ceased in animal and vegetable, disintegration ensues, and objectionable objects and substances which would encumber the world and destroy life, are rendered harmless and resolved into the elements from which they came, to be used again in the production of something else. No more atoms exist to-day than ever did. It is their ever changing combinations, making new configurations of molecules to be used in sustaining and maintaining life that gives us such variations in structure and appearance. These molecules capable of maintaining life by chemical changes, or the changes brought about by the activity of the microorganisms, are being constantly formed, only to be again resolved into the elements, life taking to itself what is required; the balance entering into new combinations which, in turn, again form life giving and sustaining substances, and thus the never ending, never ceasing cycle proceeds.

The subject is an absorbing one, and were the limits of this paper not so arbitrarily circumscribed, I could find many and various characteristics of the bacteria not possible to now touch upon, to engage the attention. The part played by these minute organisms in disintegrating stone through the acid products derived from their secretions, thus making the first step towards the formation of soil; their action in appropriating free nitrogen from the atmosphere and converting it into nitrates and nitrites, and again by their action on plants, they aid in the storing of these necessary chemicals in the roots for use in growth; and again through their action in converting manure into *humus* to be used in fertilizing the soil, enabling the farmer to grow bountifully of plants and vegetables necessary to furnish man, as well as animal, with nourishment. Whether it be from the compost heap, or by the green manuring process, the useless material, through the activity of the bacteria, must be converted into the useful.

While they are thus an indispensable aid to the farmer, they are also active in other directions, which cause him many vexations and oftentimes much loss. They produce diseases in his stock, attack his fruit, vegetables and uncured meats. Too great activity in wet weather causes the planted seed to rot. They are also responsible for the disagreeable odors of the barnyard, as well as the perfume of the flowers. They attack the fallen tree, as well as the mighty monarch of the forest, in all his glory of life, and they oftentimes destroy his hay. The list could be lengthened of benefits, as well as of disadvantages, resulting from the action of the bacteria, not alone to the farmer, but to all callings in life, as well as to all animal and vegetable life, but space will not permit, and we pass to that character of bacteria known as pathogenic or disease producing bacteria.

There are two divisions of this class of germs, those which invade the body and feed upon the tissues, and those which feed only upon the food after it has been swallowed. The first class produces diseases of a kind characteristic of the particular germ. These varying characteristics enable the bacteriologist to isolate and study them, and to thus produce their antitoxins. There are individual features which make this branch of the study of bacteria very interesting. The bacteria which cause diphtheria, for instance, get no further than the mucous membrane of the mouth and throat. When once lodged there, and the conditions are favorable for their growth, however, they multiply with extreme rapidity, and produce toxins, or poisonous substances, which are taken into the circulation, and thus produce the disease which has been so destructive, especially to children.

Happily, these germs have been isolated, cultivated and an antitoxin secured, whose action is destructive to the toxins. In this same manner does the tetanus bacillus produce that dreadful condition known as lockjaw. This germ is also confined to the site of the injury, where it grows rapidly, producing the poison through chemical change, which enters the circulation to produce the violent train of symptoms which until recent times were almost surely followed by death. But this germ has also been isolated, cultivated and an antitoxin secured whose use has reduced the mortality very materially. In such instances, the physician does not fight the bacillus itself, but the products of its life.

These toxins, or poisons, have been carefully isolated and studied and, by experiments shown, that when injected into animals, they produce the identical disease and very frequently death. By cultivating the several kinds of disease producing bacteria in favorable media, their toxins are produced, which are attenuated and injected into animals in gradually increasing quantities, until the animal ceases to be affected or becomes immune. Then the blood serum of such an animal is used by injection as an antitoxin when one is attacked by the bacillus.

These antitoxins in some manner destroy the poisonous action of the toxins, and nature is assisted in the battle to regain health. In this manner of treatment, that most dread disease, diphtheria, has been robbed of its terrors, and a mortality which formerly prevailed of 50 or more per cent. is now reduced to from 3 to 10 per cent., dependent upon the promptness with which it is used.

Others of these bacteria are parasites which invade the tissues, traveling in some instances to remote parts of the body, while some are confined to certain glands or structures. The bacillus of tuberculosis is one of the former, as they often attack, besides the lung tissue, various glands, as well as the skin and bone; while the bacillus of typhoid fever is mostly localized in certain of the glands, such as the liver, spleen, etc.

All of this character of bacteria or germs produce a poison which affects the health of the individual, and causes specialized diseases. The same germ, however, may, under varying conditions, produce disturbances of varying character, dependent upon a variation in the germ and in the individual.

Decayed meats or overripe fruits, made so by fermentative action of the germs, are always dangerous to health. From such meats or fruits, a poison characterized as ptomaines or toxins may be absorbed and cause disease or death—sometimes very quickly.

It must not be forgotten that poisons are produced in the stomach or intestines more readily than in the milk pail or in the cellar. Of the great numbers and kinds of bacteria existing, very few comparatively, are associated with, or produce diseases, and if the person be in good health, even these are not so much to be feared, for they will be digested as readily as will an oyster. Care should be exercised in the selection of food, especially in warm weather, and overripe fruit, or underdone meats, should not be indulged in.

177 West 83d St.

PROFESSIONAL FOIBLES.

By Arthur C. Jacobson, M.D.,
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"A decided gain would come from a freer criticism of all kinds in our medical literature. A fear of frankness seems to bind it all."—George Dock.

The delineation of the medical man's foibles has been monopolized hitherto by the professional satirists, all of whom have been laymen not always well informed as to actual conditions. They often supplement fact with fiction, their imaginations supplying episodes that are more ridiculous and exaggerated than truthful, or at least within the limits of verisimilitude. We are speaking now of the great satirists—the Molière and Sterne types. They are not always convincing in their portrayal of the physicians of their own times; that is to say, we of to-day resent the imputation that Dr. Slop and Purgon could have been anything else than gross caricatures of the medical cotemporaries of Sterne and Molière. We may, with proper professional spirit, resent the aspersions which have been cast upon our medical progenitors, but the truth is that while here and there appeared a Harvey and a Sydenham, yet there was no such leveling up as we see to-day, and the conditions which prevailed among the profession at large were more nearly typified by the alumni of Montpellier or by the *doctores bullotti* of Germany. There can be but little doubt that the profession of those days offered much material for caustic treatment at the hands of the dramatists and novelists and that we can learn nearly as much about professional conditions by studying these characters as by a perusal of the medical classics, just as we draw certain inferences concerning Roman life from the pages of Terence, Plautus, Martial and Juvenal, no less than from the masters, Tacitus and Seneca. We certainly get the human viewpoint in this way, and, making certain allowances, we can strike a balance of truth.

In our own time and at this present day it cannot be denied that individual practitioners not infrequently furnish rich material for satirical shafts, but fortunately for these luckless wights, we lack a Molière. So long as there is such a thing as the personal equation, so long will there be such material.

It may be maintained that the delineation of such characters, even at the hands of one well-informed—let us say a member of the profession who has closely studied his brethren—proves nothing and can be productive neither of edification nor amusement. But let us examine into this matter a little closer. Practically all of the subjects whom we would naturally select in this field are our most conspicuous men, reflecting in their lives the influence that the medicine of the day is exerting upon them. I have in another place (*American Medicine,* November, 1906) pointed out that our smug contentment with things medical is not entirely justified by the facts—that our boasted progress cannot stand too searching an analysis. We must also bear in mind that the men whom we may elect to satirize are our ablest and most aggressive types, strong in their personalities, but no more conspicuous by their talents than by their foibles. These are compensating traits that have always been noted in medical men. Erratic weaknesses go side by side with extraordinary abilities; amusing oddities find themselves conjoined to remarkable talents. We are not holding postmortems here, there shall be no suggestion of foul scandal, gross moral weaknesses and derelictions, nor the occasional excursions of medical men into other phases of human wickedness, which as men they are subject to along with the rest of mankind, though relatively more moral than most of their brethren. Our study is a good-natured attempt to set forth those vagaries which originate in the psychic sphere and find expression in certain more or less harmless peccadilloes which lend themselves readily to satire.

Well within the borderland of sanity reside possibilities having to do with certain mental reactions which, in their external expression, may be called erraticisms. The normal human mind is an elastic sort of thing, and often permits of much straining without anything more resulting than certain odd manifestations. We strongly suspect that these are cousins, in a shadowy sort of way, of certain cut and out mental operations which transpire in the realm of psychiatry and which bring upon the poor devils, in whose bodies these operations an all-wise God apparently condones, temporary or permanent residence in mad houses. The dividing line, however, is reasonably obvious, and method may always be looked for in much of the apparent madness.

THE MODERN CONSULTANT.

The modern consultant is too often the present-day equivalent of the astrologer of ancient times. The cloak-like cape often affected by our consulting confrère is the direct lineal descendant of the bestarred gown of his astrological prototype. The neurologist's plexor, with which he solemnly elicits a reflex here and a reflex there, is the last step in the evolution of the magician's wand.

Paracelsus Cinchona Pickwick, the great city consultant, had he entered the diplomatic service of his country, would have made all the Talleyrands and Cavours look, metaphorically speaking, like tin soldiers or gingerbread men. These latter have been mere children in the art of Machiavelli. As the faded flower of yesteryear, pressed and dried between the covers of your old Horace, is to the rare orchid in to-day's hothouse, so are these statesmen to the professional consultant, Dr. Pickwick. He treats the well, not less than the sick, to his ministrations. He treats the general practitioner, too, in a sense. The G. P. feels, after a fraction of an hour's contact with this type of consultant, as though he had had an electric bath. It is a strange thing how typhoid ulcers and inflamed lungs manage to resist this kind of light therapy. The rays of optimism and of wisdom which emanate from this source should, by all the canons of Hygeia, be charged with a force beside which radium is a feeble sham. There can be nothing in psychic therapy nor Eddyism in their most transcendental phases when we see this influence fail. Such occult clinical phenomena as pneumonia of the apex, arteriosclerosis of the uterus, and a febrile typhoid, foolishly attempt to evade this medical searchlight, but all in vain. He can palpate the normal appendix, and he rises above the commonplace, in nosological acuity, as Emerson in the field of letters takes us into the most expansive realms of thought. He discerns unerringly the pre-incipient stage of tabes mesenterica, and as Plato interpreted the Socratic teachings, so does our admirable Pickwick penetrate and interpret for cruder minds the veiled and mystic noumena of the pale brotherhood of disease.

But he is an indispensable adjunct to our resources. After all, we admire his traits, and we are made to share, momentarily, "thoughts sublime that pierce the night like stars." These are but crumbs from a bounteous table, but they satiate the mind of the average G. P., who is a good fellow but no Aristotle in intellect.

These admirable Crichtons of medicine have been well-endowed by the gods who dispense and preside over the intellectual destinies of man, and their patron saint is Paracelsus.

THE LABORATORY DIRECTOR AND RESEARCH MAN.

Our laboratory directors are not exactly medical wizards. We have no Edisons nor Lord Kelvins. Suppose the former, instead of utilizing his laboratory workers as he does, for eminently practical ends—ends that result in the perfected telephone, the incandescent light, the phonograph, the improved fluoroscope, the Edison dynamo, and a hundred other things that make life more civilized—suppose that he set his men at work upon all sorts of bizarre and outrê quests not leading directly to the presumably ultimate aim, and published a "Journal of Experimental Research," in which were recorded a thousand and one, more or less, incoördinate data, hopelessly involved in technicalities and pedanticisms and about as excitative of interest, much less study, as the catalogue of the ships in Homer, or the Veda in the original Sanscrit—where would he come out and where would society benefit? The endowed research laboratory cannot fail, no petitions in bankruptcy can emanate from it, and the controlling pedants, clever at least in that they can hypnotize even the world of science into a belief in their competency, will continue to issue their absurd, ultra-scientific bulletins, and cancer, and tuberculosis, and all the other scourges of humanity will continue to exact their tributes of morbidity and death until there shall come again a Harvey, a Jenner, a Bichat, to serve the purposes of God and the needs of mankind.

The laboratory man is the present-day equivalent of the alchemist. Here again we see the working of the evolutionary law. Just as the astrologer furnishes the prototype of the modern consultant—the prognostications of the latter being related to the predictions of the so-called "judicial astrologer" of ancient days—so is there a bond in the present instance between the alchemist and the laboratory man, the former having been allied with medicine because of the object of his researches—the *elixir vitae*. There are other reasons for drawing these analogies which are less charitable than those just stated.

What are the laboratories producing when from such a sane and respectable source as Sir Dyce Duckworth we learn that "the art of medicine is fast declining"? Is not one of the alleged objects of laboratory work to add to our therapeutic resources at the bedside? Says a recent writer (Disen): "When disease has gained a foothold we cannot, as a rule, accomplish much more than was accomplished some thousand years ago." Says another (Hornibrook): "Science has given us diphtheria antitoxin and the antitetanic serum and vaccination, but we are no better off than we ever were with respect to measles, pertussis. influenza, scarlatina, typhoid, and a host of other more or less common afflictions."

How we do love the ingenious hypotheses that emanate from the laboratory, like the side-chain theory. We use up a lot of valuable energy creating fragile hypothetic structures isomeric with the stuff that dreams are made of. Perhaps we should go beyond Sir Dyce and include (medical) science along with art in our animadversions.

Medicine in the old days was a comedy, and in spots, as under the influence of Paracelsus, a hippodrome. To-day, in the laboratory, it has become a problem play.

Men are far less willing to-day than they were in the time of Socrates to follow that philosopher's advice and concede their ignorance and begin all over again. Yet things work out exactly that way. They follow up certain lines of investigation until they find that they lead nowhere, then begin all over again. This kind of work would achieve results if the *personnel* of the present laboratory "crews" could be changed. We can turn out politicians who are not "making good," but our laboratory directors are immune against any sort of interference. To paraphrase Ibsen: "The medical ship carries a corpse in its hold."

THE TECHNICAL JOURNALIST.

There is a vast deal of technical medical journalism. So we must briefly consider the technical journalist, that ubiquitous character who fills the weeklies and monthlies with lucubrations, which in the main are destined neither to illuminate present problems nor live in posterity's cherished annals of the past. No reader, however omnivorous, could follow up a tithe of these writings, even in special departments of medicine. It is a fearful and a wonderful pile composed largely of perishable stuff.

Many of these journalists are most prolific and some are quite versatile. What they hope to accomplish with their tremendous output is difficult to discern. This itch for writing is probably not entirely referable to a desire to accomplish anything definite (*e.g.,* educational results), but rather to an outpouring of the spirit which may serve some vicarious purpose, and which may very well be physiological no less than intellectual. From one point of view it is a kind of soul evaporation—a climacteric colliquation, as it were, taking the form of technical journalism. It is not gain, certainly, which prompts these efforts, for few if any of these articles are paid for, save in the case of those booming certain proprietaries, usually written by fairly prominent men, who get their remuneration for thus prostituting themselves from the makers of such medicines. Lastly, we can say that these writings at least serve the purpose of encouraging the printing and publishing trades.

These articles range all the way from those encountered in the freak monthlies, which it is not necessary we should name, so well known are they, and so often have they diverted us with their *opéra bouffe* medicine and science, to the high grade journal with its acroatic subject-matter. The one is sublimely ridiculous, the other ridiculously sublime. Between the two extremes we find a golden mean.

We would not for a moment underestimate the splendid contributions which have come to us in this way from time to time. So also the *Index Medicus,* than which there is nothing more valuable and useful, is the repository of many gems, albeit in a setting of "precious" imitations. All are immortalized by inclusion therein, both the gold and the dross. We supose this to be necessary and inevitable. Within these ponderous and democratic tomes the greater and the lesser prophets shall rub shoulders for all time with the charlatan, the rank and file, and the camp-follower. So it is in practical life, and so must it be in the files which make permanent record of the literary output of the whole profession.

It is not hard to burlesque many of our technical journalist's productions. We would not be especially astounded if we opened the pages of our "Experimental

Journal" and encountered these topics:

"The Relation of the Opsonic Index to Crime."

"Bier's Method in the Treatment of Pulmonary Tuberculosis; the Establishment of Stasis in the Lungs by the artificial induction of mitral insufficiency: Author's method and Remote Results in 179 cases."

"The Transposition of the Impregnated Ovum from the Human to the Bovine Uterus in Cases of Puerperal Bright's, Puerperal Toxemia, High Degrees of Pelvic Contraction, Habitual Abortion, and Certain Types of Cardiac Disease: Technique and Results."

"Economic Aspects of the Venereal Diseases: a Consideration of Certain advantages to Society growing out of their prevalence."

"Is Cancer a Chronic Toxemia with Resultant Cachexia and Characteristic Local Lesions due Primarily to Habitual Constipation: Facts tending to support this Hypothesis."

"The Rôle of Tobacco in the Etiology of Prostatic Hypertrophy."

"The Induction of Passive Local Hyperemia in the Treatment of Specific Urethritis: a Warning against the Possibility of Excessive Constriction—Reported Instances of Untoward Results."

MEDICAL MORALISTS.

There is an American Society of Sanitary and Moral Prophylaxis. It is composed of well-meaning men, mostly physicians, who take a transcendental view of their functions and who meet to discuss ideas that are dangerously close to the visionary, and ways and means that are in the main impracticable. Their intentions are distinctly laudable, but they seem to have a sublime contempt for human nature and its perversities. They are much interested in legislative possibilities, although the common sense counsel that they have received in "allopathic" doses from certain experienced, practical men has rendered them rather doubtful on this score. They seem mainly interested in some kind of a propaganda of education, believing that there must be some safe way of instructing the young mind in sexual matters. They forget that the children are taught by the churches to hold a degrading and immoral conception of the nature of man's sexual origin, which is a process said to be essentially unclean. How can they get around this proposition? The origin of the bird is a clean, purely biologic conception, but not that of the man. There is no purity in a human conception. To use a colloquialism, this practical difficulty has our good reformers "nailed to the cross." They are, in the main, the last men who should attempt such a program, but they are almost willing to rush in where angels fear to tread. If not these men, then who, the reader will ask. Supermen are needed here, in the present state of our social organization. These things cannot be inculcated as a political campaign is carried on. Where did the members of this society get their own chaste morality? From circulars distributed by some organization? How many of them never had gonorrhea nor chancroids themselves, we wonder? We don't mean to be unkind, merely honest.

Many of these men favor publicity in these matters, yet the very title of their society is a subterfuge to avoid it in their own name.

Their program is to make others conform to certain standards which neither they themselves nor any other body of men occupying conventional places in society have ever, with entire consistence, lived up to. They may expect this of the abnormal man, whether the abnormality consist of physical defect, mental obliquity, or spiritual exaltation, but never of conventional man.

In all this, we are not for a moment forgetting the horrors of prostitution, nor the ravages of venereal disease among the poor innocents. But we believe that prostitution and venereal disease are inevitable so long as our vicious social structure, industrial crimes, and competitive system are not replaced by sanity, ethics, and true standards of living in general. These diseases are but the material manifestations of pathologic social conditions. It is not drugs, nor circulars, nor lectures, nor legislation, nor reglementation, nor inspection that are needed. Nothing less than that hypothetic concept, applied Christianity, can ever meet the requirements, and we haven't even begun to teach ethics systematically in the public schools.

Would the public moralists of this soc-ciety better expend their energies in circulating pamphlets among or talking to the people whom they are trying to moralize, or in endeavoring to master themselves the fundamental social problems without solution of which the realization of decent living on the part of all is a Utopian fancy? It is these teachers, Pharisees, dreamers of dreams and seers of visions, who are themselves in need of instruction and of some antidote to the hasheesh of smug belief in their own fitness, with which they are permeated, saturated, steeped.

The medical man with an avowed mission is a novel, strictly modern phenomenon. Inspired are his onslaughts upon disease. Reincarnation of the crusader of old, he holds in one hand the Excalibur of Truth, in the other a reprint; exalted wisdom flows from his lips and the currency of the realm into his capacious pockets; a burning zeal for man's salvation blazes fiercely in his paternal bosom, while the sad, tired visage betokens those long vigils of the night in which this medical Savonarola wrestles on mankind's behalf with the fell enemies of health. His is a large stage, his audience the whole people. He carries on a propaganda of publicity and education. He shrinks from the limelight's glare and the gaze of the curious, but duty calls (nor are megaphones needed). He is a public character; civic virtue drips from his person; he exudes morality as the rubber tree exudes caoutchouc. There is no church club nor Y. M. C. A. which has not seen him. The scourges which he assails are blessings in disguise, for without them we would know him not.

THE GENERAL PRACTITIONER.

THE crimes of the G. P. are many and heinous. They range all the way from mere appeals to the weaknesses of his patients, such as their vanities, to the most reprehensible sins of omission and commission, having to do directly with his professional duties and vitally concerning the welfare of his patients. In the first class—we shall not go into the technicalities of the second, such as the slipshod observance of surgical cleanliness, the prescribing of ready-made proprietaries, bungling obstetric and worse genito-urinary work—we observe such amusing practices as the denomination of every child as "little sunshine" (this to the mother), or of some human jelly-fish as "a remarkably strong character" (this to the wife or sister). The new baby never weighs less than 12 pounds and the consumptive has chronic bronchitis and weak lungs. The G. P. is always resourceful in replying to questions regarding disease. It is exceedingly doubtful if anything exists in this line that he cannot account for without an instant's hesitation. We are not speaking of technical knowledge in the strict sense. The average layman doesn't ask technical questions, and even if he does he cannot challenge the answers. It is a strange thing that while the average G. P. has forgotten all he ever knew about the anatomy of the eye or ankle joint, or the topography of the cerebral cortex, he is never at a loss in explaining things that are essentially complex and abstruse. Uric acid has been a veritable godsend to him. More has been charged up to this agent by the G. P. than to any other single factor. It has been the most abused of all scapegoats. It has been as serviceable as the Brunonian postulates once were, which divided all diseases into the sthenic and asthenic types. Threadbare, hackneyed, overworked, it yet serves a miserable purpose. If there was ever a benefactor deserving of a monument at the hands of an army of grateful casuists, that man is Haig!

The term '"vitality" is an indispensable one. Without it the G. P. could not account for a large class of clinical phenomena. The poor wretch who, dying, refuses to utterly die, and clings tenaciously to life for days and weeks, has a "wonderful vitality." We must have *some* term for these things. No one is more puzzled than the G. P. to know how he does it. Of course he is "sinking" all the time, too. Only the doctor can see the "sinking" gradations objectively and he spins very fine prognostic material out of these imperceptible (to others) changes. By the way, this idiomatic expression, "sinking," is a paradoxical term. To sink is to pass downward. Most of us hope to pass upward when we die. Let us be scientific even here in our classifications. Only the wicked should be permitted to sink. It is not to be expected that we can alter this colloquialism in a day, but somehow or other, for the sake of the proprieties, we ought to make this matter of dying a rising process.

There is no human being who can talk to relatives and friends of a patient and say so little as the G. P. His remarks usually refer to the *status praesens* of the patient and matters of prognostic interest. He is an artist in platitudes. Much of this amounts, when analyzed, to a statement that if the patient does not die he will recover, or *vice versa*. It is extraordinary how satisfying these deliverances are to all sorts and conditions of men. In these matters the railroad or bank president, or the governor of the State, is as simple as the laborer, if not more so. We must of course take into account that their relatively eminent attendants are relatively more impressive and plausible than the average G. P. These people don't even remotely understand what the doctor has said, sometimes, in which case the hypnosis is more profound. It is enough for some women to merely listen to the doctor's mellifluous tones and gape at his supposed learning. How far in error is Maarten Maartens when he describes the practice of medicine as two-thirds humbug and one-third worry?

After things are all over nobody can fix any indiscreet utterance on the doctor, say in case of unexpected death. He hasn't said anything definite, be it remembered. After the event he can say he knew it was going to happen, but did not have the heart to apprise the folks of it. In fact, this motive is often ascribed to him without his having to do any more than modestly confess to the soft impeachment. Long experience has taught the doctor that he can't really say anything—actually commit himself—without, as a rule, having Nature play practical jokes at his expense. He tells the reporters that the archbishop or the president is out of danger, and half an hour later his grace or his excellency is mean enough to board the Celestial Limited.

THE SPECIALIST.

The specialists are an interesting class. They are specialists in more senses than one. Many of them are specialists in separating people from their money. The highest art in our modern life is to do this thing gracefully and lawfully and make the client, the customer, or the patient feel as though he had got something for nothing. It is the same thing that enables crude people to become well-acquainted with the police, but in the one case it is vulgar, in the other it is high finance. There is undoubtedly a high finance in medicine today as in trade. I was about to say on a lower plane; let us say on a smaller scale.

To be a specialist the possession of special knowledge is not necessarily requisite. The average specialist may be defined as a self-acknowledged expert.

How does a man become a specialist? Well, I know that in the case of one genito-urinary man, a peculiarly severe personal experience, vitally concerning his eleventh finger, acted as a factor in determining his choice; sort of directed his attention to higher things, as it were. It is well known that many gynecologists believe that they take very well with—or from, if you like—the ladies. The incipient surgeon is sometimes led to think that he is an embryo Paré, because before he studied medicine he may have helped some local celebrity to put up a fracture. Of course we are speaking of primary impulses and influences now. He has also been told, often enough, that he is cold-blooded, has "no nerves," etc. We can't overrate the power of suggestion in our callow days.

To revert to the gynecologist. He is at

home in the vagina and can feel things in the tubes that are occult, esoteric and recondite to ordinary medical mortals. He has been known to feel things that subsequent operation strangely failed to reveal, but he can always give you a good reason for this.

How about "cures?" Well, the genito-urinary man claims to be able to cure "clap," but he admits to those friends who are in his confidence that it is about as easy to cure it as it is to find a man who hasn't had it. It is even known that there are G. U. men whose own renal secretion, when held in a test-tube in a good light, resembles nothing so much as a gold-fish soirée in full swing.

If "woman is a constipated biped with whites," man is her homologue with gonorrhœa.

Here we see how growth in knowledge modifies treatment. The old method was the injection of strong solution, based on the conception that the disease was curable. The bull was taken by the horns, as it were. The relatively conservative methods of the modern specialist probably strike a balance. with respect to frequency of complications, between the poor results of the old method and the probably excellent results, could the demonstration and comparison be made, of wholly expectant treatment, other things being equal. The irrigation treatment is very popular just now, mild irritants, such as protargol, bichloride, etc., being employed. Probably the results would be better with physiological salt solution.

In like manner, the ear man "improves" his chronic otites.

I suppose there are some men who take up special work because of a burning desire to better alleviate the sufferings of humanity —as a primary motive. I am willing to concede that there have been such and that they were not paranoiacs, either. As to how often this motive operates as compared with a more common one—namely, the belief that there is more remuneration in a special branch of the art, I do not think it necessary to express an opinion. The life is certainly easier, as compared with general practice. With success come high ideals, sometimes fame, but always will their special knowledge and earnest study of the ways and means of acquiring and utilizing fees far exceed in profundity and expertness their special knowledge of disease and its proper management.

A peculiar facies, expressive of great joy, has been observed in the specialist upon perceiving the patient's fee. It is said to be constant and characteristic, but must be looked for closely, since it is only evanescent and is immediately supplanted by the conventional physiognomy. Sometimes it manifests itself only as a peculiar glint of the eye.

Some neurologist has described a spasmodic phenomenon confined mainly to the right upper extremity, known as the specialist's clutch. It is always associated, when present, with the eye symptom before noted. It is characterized by an impulsive forward movement of the hand and arm, the patient's fee being seized quickly, whereupon the fingers grasp the bill or bills convulsively. The clutch is said to have almost superhuman power.

Enough has been written about the alleged narrowness of the specialist, or rather the tendency of specialism to curtail one's medical horizon, to make any further comment here superfluous. Suffice it to say that the sins of the specialist in this wise are as great as those of the despised G. P. in other directions.

The specialist always displays one very characteristic trait. He is most ingenious in introducing his subject into a society discussion on *any* topic. We have all wondered, when we have seen Dr. X, a neurologist, arise to discuss a paper on stone in the urinary bladder, how he could say anything *apropos,* and he has surprised us by an allusion, after some conventional remarks as to the apparent remoteness of his specialty to the subject in hand, to calculus-like deposits in the Pacchionian bodies and the pineal gland. Similarly, the ear man, after a paper on neurasthenia, can rise to the occasion with some illuminating comments on the diminution in the hearing faculty in this condition. It is exceedingly doubtful if the more clever among the specialists could be "stumped" by any imaginable contingency of this nature. These things afford amusing examples of nimble resourcefulness.

MEDICAL SNOBS AND PRIGS.

We have our share of snobs and prigs in the profession. The man who has written a book sometimes lays great and unwarrantable store by such fact. Just why the perpetration of books should exercise such a potent influence in the modification of character and manner, and in the excitation of mild delusions of grandeur is hard to see, when we consider some of the books. What commonly deserves horrible punishment becomes a source of conceit. Of course this weakness is more commonly observed among lay writers, the embryo Thackerays who infest the world. We also frequently observe the same spirit in the professors of freak medical schools. So also the inordinate love of titles is a commonly observed failing. If one can write himself down as a Fellow of the London Society of Letters and Art he gains two inches in his chest measurement, his digestion improves, and his deportment becomes a trifle statelier, if that were possible. Yet there is literally nothing in it. Again, we observe somewhat the same thing in the case of pet methods or more or less ingenious instruments. And how we quarrel about these things! How Dührssen and Bossi and their partisans have made the feathers fly in the course of their polemics! It is the scratching out of an opponent's eye, seemingly, rather than the conquest of disease, which becomes the *desideratum* in these gentle discussions. And this is not much less true to-day than it was in the days of Türck and Czermak's famous quarrel, or of those characters who figure in the annals of anesthesia. But here we must reckon with human nature. That is the same yesterday, to-day, and forever.

THE MEDICAL POLITICIAN.

For want of a better term, we must call a certain type of practitioner the political doctor. He is a species of the genus snob in many ways. Dr. Algernon Snobbins, the political doctor, is that character whose life is made up of machination and intrigue in the sphere of hospital and college boards and staffs, and of various medical societies and organizations. Were he not a physician he would be, *caeteris paribus,* a factor in State politics. Of course all his schemes are "miserable aims that end with self." Here some man is undermined, discredited and eliminated, and there some pawn is moved along the medical chessboard, whose preferment does not threaten the P. D.'s prestige, but, on the contrary, becomes a synergetic force in its perpetuation. A professorship is too often a guarantee of mediocrity. Nearly every administrative body of medical men includes such a pernicious character, but it is strange how long it usually is before he is discovered in his true light. Occasionally he manages to permanently evade correct classification, and even when this does happen his confrères often show a divine patience in continuing to tolerate him in their midst. I think that more than any other class of men we are charitable to a fault in these matters. Like the Spartan boy, we conceal the fox which tears at our vitals.

THE DILETTANTE IN MEDICINE.

Then there are the medical dilettanti, men who practise the art as a pastime. Well, it is true that they might make worse use of themselves and their resources—which are mainly financial—or, what would be more likely, no use at all. Precious few of them but would starve had they to depend entirely on their natural resources. The evil of their presence resides mainly in their occupation of institutional positions, which involves the exclusion of really good men. They always control a plethora of lay "influence," social and appointive, to which they owe their preferment. It is true that we occasionally find merit in this quarter. We say the profession is overcrowded. It is these dilettanti, quite as much as any other class, that constitute the overcrowding factor. The country practitioner, rugged, resourceful, admirable character as he often is, is a lovable, capable and heroic type in comparison with the nincompoops who make up the .dilettanti. The one does a man's work in the world, the other is an automaton in the show-window of the medical shop. We are so familiar with these *poseurs*. They haunt the college halls, the hospital wards, the clinics, the laboratories and the societies. They know all the scientific cant of the profession. They hold monopolies and mortgages on many of the assistant, adjunct, and associate chairs. They are parasites who obstruct the normal circulation and interfere with the proper nutrition of the professional body. Dead weight on the wheels of progress, they offer a depressing spectacle of conservatism wedded to mediocrity, of respectability mated with impotence. If cancer's baleful secret is ever wrested from it while these conditions continue, then will the earth quake, the heavens be rent, and the sea give up its dead. And the world which does not know wonders and suffers long. With a divine patience the people bear with the false prophets of science. And with patience co-operates the specious explanations of the medical sophists as to why they achieve not. Hypnotized by a charlatanry which is ethical, anesthetized by a Pharisaism which is authoritative, man, Prometheus-like, is fixed to the rock of therapeutic impotence and tormented by the vulture, carcinoma. How long shall he await the Hercules who will deliver him?

THE MEDICAL EXPERT.

The writer does not feel that he could confine himself within parliamentary limits in a discussion of the so-called medical experts. Anyway, it would require a Juvenal to do justice to this type of professional terata. It is distinctly pathologic and not interesting except in the sense that fetal freaks or other unpleasant anomalies sometimes are. Suffice it to say that "there are liars, — liars, and expert witnesses."

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When our attitude toward present-day drug therapy, as regards efficacy, shall be the same with which we now regard the witches recipe in Macbeth—

"* * * * * * *

Eye of newt, and toe of frog,
Wool of bat, and tongue of dog,
Adder's fork, and blind-worm's sting,
Lizard's leg, and owlet's wing.

* * * * * * *

Liver of blaspheming Jew,
Gall of goat; and slips of yew,
Sliver'd in the moon's eclipse;
Nose of Turk; and Tartar's lips;
Finger of birth-strangled babe,
Ditch-delivered by a drab,

* * * * * * *"

—when we have learned how to prevent and cure disease, when we have learned to study and comprehend and wipe out the real causes of the evil days upon which medicine has fallen—the chief of which causes is therapeutic failure, when the parasites whose existence in our midst is due to our own failure to master and solve the problems of therapy shall have no excuse for their existence, when a Moses, in the person of a Wright or a Metchnikoff, shall lead us out of the wilderness of therapeutic impotence, then, and not till then, shall medicine achieve its mission. Drugs will never solve these problems. The opsonin therapy, while it will not in itself bring us the millennium, is at least a harbinger. We are relatively helpless, but not hopeless. Nothing short of the realization of the highest ideal should satisfy, and that ideal is nothing less than the mastery of disease. Under our present order we are not much nearer it than we ever were. As Victor Hugo overthrew the classical traditions of literature in France, so must a broader conception of present-day problems in medicine be forced by some one upon a profession whose own opsonic index is low. Here and there is virile phagocyte, but for the most part the individual leucocytes of the professional body are paralyzed. All cannot lead, but it is not safe to premise that they can even think. Like sponges they absorb the knowledge of the day; with this they saturate themselves, and then begins their ceaseless use of this material, good in itself, but to be confined in its utilization within the conventional dead-line. These characters are merely efficient engines; they utilize their fuel—knowledge—in their steam-engine way. It is the dynamo type to which we must look for results. Here we witness the conversion of a weak current into one of high potential, although the current has undergone this conversion *by reason of reaction upon and within itself.*

He is not a pessimist who denies that medicine has made *wonderful* progress in the recent past. There is more of rhetoric than of truth in these smug pretensions, and the latter are far more subversive of progress than an attitude which attempts to properly determine values, even though these are somewhat underrated. Moreover, "the people, hearing so much of the rapid strides of medical science, expect from us anything short of miracles." We know what they *get,* poor devils, and it is not more precious than rubies or fine gold. (The fruit of the *citrus limonis.*)

The elder Pliny (Nat. Hist., XXIX.) wrote that "the art of medicine at the present time even teaches us in numerous instances to have recourse to the oracles for aid." Similarly, it is the fashion in this twentieth century to have recourse to Christian Science and the fifty-seven other varieties of strange cults and irregular systems. In a sense, modern physicians are teaching the people to do so. You may resent the imputation, but although unpleasant it is none the less true.

It is a hard thing in this boiler-shop age to see clearly through the maze of our complex civilization and come to any conclusion as to where we are coming out. Kate Masterson has summed it up well when she recites some of its conspicuous characteristics. It is an era of artificiality and false standards, of cowless milk, henless eggs, and other kinds of "near-food;" an age in which we expect to see air-ship races along the Milky Way, communication with Mars, three-day trips to Liverpool, and the artificial propagation of the human species; in which we may expect to see advertisements on the sky, antiseptic seas, and the etherization of Oslerites in time to automatic musical accompaniment; in which the female altar is piled high with bargains and the masculine one has a quick lunch; in which "moral overstrain" is talked of and affections, good manners and morality are founded to a great extent on hypocrisy; in which love is foreign to real life and love songs are rendered by pianolas; in which utility, haste and money are our gods; in which stage sunsets eclipse the best efforts of nature, and third-rail whiskey induces as a substitute for the obsolete snake of the alcoholic's hallucinations, hydra-headed monsters with a honk on each neck; in which vices have become accomplishments, and in which we no longer hanker for heaven, which we suspect to be lacking in modern improvements; in which the religious are the most skeptical; in which the most ethical physicians are the best advertisers; in which everything mysterious has been unveiled and the Holy Grail contents found to consist of wood alcohol and cudbear; in which you cannot escape some kind of itis and the final transfer of your bones to crematories in motor hearses; and in which we are compelled to create new social classifications hitherto undreamed of, *e.g.*, the "criminaloids," the perpetrators of practices in our modern society more lucrative than authentic crimes, yet who "occupy the cabin rather than the steerage of society." These are the insurance grafters, the rebaters, the adulterators, the humbug healers, the commercial freebooters, the fraud promoters, the law-defying monopolists, the corrupt legislators, the venal inspectors, the bought bank examiners, the mercenary editors, and the corporation-owned judges.

Of course some of the foregoing is far-fetched hyperbole, but it carries a measure of truth. Medicine is certainly beset in its workings by conditions which for complexity society never before even remotely approached. In the midst of these things it is not strange that there should be much that is susceptible of satirical comment. And what is more, things will get worse before they will get better. We cannot think that they will go on forever as they are,

"* * * * * * *. till human Time
Shall fold its eyelids, and the human sky
Be gathered like a scroll within the tomb
Unread forever."

115 Johnson St.

MILK IN TYPHOID FEVER.

By A. L. Goodman, Ph. G., M.D.,
New York City.

In the 64th aphorism of Section V. Hippocrates says: "It is a bad thing to give milk to persons having headaches, and it is also bad to give it in fevers and to persons whose hypochondria are swelled up and troubled with borborygmi, and to thirsty patients; it is also bad when given to those who have bilious discharges, in acute fevers and to those who have copious discharges of blood. But it is suitable in phthisical patients when not attended with very much fever; it is also to be given in fevers of a chronic or weak nature, when none of the aforementioned symptoms are present, and the patients are excessively emaciated."

Celsus, the first renowned medical writer of the Romans, considered milk the most nourishing of food stuffs. He recommended it particularly as a diet in febrile diseases. He also considered soft cheese a wholesome addition to the feeding in acute fevers.

The subject of a proper diet in febrile diseases is not a new one, and has caused much controversy these many years. In recent times careful experimentation by many capable men has developed a broader and more scientific understanding. But there still exists to-day much diversity of opinion.

In 1843 Graves called attention to the dangers of inanition resulting from long continued fevers, and suggested the necessity of a properly regulated diet.

In 1878 Buss at Immermann's Clinic and Hoesslein in 1882 showed by carefully conducted experiments that fever patients with diminished appetites and not too high temperatures could digest the total amounts of fat, carbohydrate, and proteid, if the food was given in the proper form.

Graham Lusk in his recent work on "The Science of Nutrition" says "it seems strange that in this country where so much attention has been paid to infant foods the preparation of a suitable diet in fever should have received such scant attention. It may well be that investigation will show that dilution of milk and its fortification by ingredients other than proteid may be advantageously practiced in fever cases as in infant feeding."

During my service as interne in the hospital and since then in private practice I have given milk to all my typhoid cases, and have found it always well borne by the patients. The trouble, which so many practitioners claim they encounter, with a milk diet in typhoid is due, I am sure, not to the milk, but to the way in which it is given. There are no fixed and set rules to follow as we do in the feeding of infants. The best way to begin is to start with very small quantities of milk, and to gradually increase the quantity until the necessary daily heat units are obtained.

In one liter of good milk there are about 35 grams albumen, 35 grams fat, and 45 grams sugar. Almost always 32 grams of albumen and 31.5 of fat are absorbed, and not infrequently these percentages are increased. The total amount of sugar is usually assimilated. In one liter of milk there is about 610 caloric units. With two liters of milk a day we have enough heat units to combat the usual inanition occurring in fever. Not infrequently patients will assimilate readily 3-4 liters of milk in a day.

The cardinal rule which I follow in all my cases is, not to allow the patients to drink the milk, but to have it fed to them with a spoon. In this way the resulting curd is much finer and more flocculent than when drunk from a glass or cup. If after a time the taste of the milk becomes objectionable to the patient it can be made more palatable by the addition of some corrective, *e.g.*, coffee, tea, cocoa or chocolate. In using cocoa or chocolate it is always important not to boil the milk, but to boil the cocoa or chocolate with water and then add the warm milk. It has been demonstrated these many years that the addition of cereals to milk in infant feeding causes the resulting curd to fall out in very small flake-like masses. These flake-like curds are less irritating to the mucous membranes and very much easier digested. In all my fever cases I have the milk diluted with some cereal decoction consisting either of barley, rice or oatmeal water in the proportion of 1:3 or 1:4 or some such dilution which I find will be readily borne by the patient. From time to time in the course of the disease it might be necessary to change the quantity of albumen fat or sugar. This is accomplished in the usual way. One thing must always be borne in mind and that is the danger arising from the giving of too much fat, and also from increasing the percentage too rapidly.

Besides the addition of the articles already mentioned there are endless lists of preparations and other ingredients which have been suggested as valuable supplements. The object of this short note is simply to register an objection to the statement which is so often heard at medical meetings "that milk is a dangerous addition to the diet in typhoid fever." Milk is not only a valuable but also a very necessary article of food in typhoid fever. If physicians would study each individual case and change, if need be, the composition of the milk to meet the requirements of the individual, I feel sure that the use of milk would become more universal in the treatment of all febrile diseases.

263 W. 113th St.

THE EARLY RECOGNITION OF CONDITIONS AND DISEASES PRODUCING DEFORMITY OF THE HUMAN BODY.

By John Joseph Nutt, B.L., M.D.
New York.

These conditions and diseases present in their early stages such insignificant signs and symptoms, and they progress so slowly, that their seriousness is usually not appreciated until after some deformity is unavoidable. Nature is sometimes able, through constitutional improvement and histological changes, to arrest the disease or condition without surgical interference. Such cures, however, seldom result, are never as satisfactory as when nature is aided by science and are not nowadays depended upon even by the ignorant. Nature in fulfilling her laws, the law of gravity, the parallelogram of forces, etc., can produce the most extreme deformities. If her signs are recognized, however, and correctly interpreted, she is ever ready to assist in removing the factors which make her laws operable for physical mal-being.

These factors are removed by the application of braces, by exercises, and sometimes by operation. Expert skill is necessary in all three measures: in the correct use of mechanical assistance, and the direction of proper exercises, as well as in the use of the scalpel.

The high hip or shoulder, the prominent shoulder blade, the slight intermittent limp, the dragging foot, the interfering ankles, the pigeon-toe walk, the waddling gait, the falling gait, the enlarged wrists, the unwonted inclination to rest while at play, the frequent desire to lean against some support as the nurse's lap, or the seat of a chair, the habit of resting the head in the hands with the elbows propped up, the inclination to stand with the abdomen protruding, or upon one leg, the irritable disposition, the complaint of thoracic, abdominal, or other pain which is persistent and unaccounted for, the sudden starting and crying during sleep; any one of these may be among the earliest evidences of a condition or disease which, disregarded, will result in producing a deformity.

It would be impossible to define, even in a cursory way, the meanings of all these signs in a paper of this length. We shall attempt the interpretation of one or two only. Nature, entirely independent of any voluntary or conscious action on the part of the individual, attempts through the contraction of muscles influencing a diseased joint, to protect the bones from further injury. During sleep, however, the muscles are relaxed and the limb permitted to assume a position which is injurious and sometimes painful. This pain comes suddenly and, if severe enough, the child awakes with a cry. Instantaneously with the awakening, involuntary muscular protection of the joint is resumed. The child may repeat this experience several times during the night. Sudden awakening and crying by children may result, of course, from other causes, but the sign is always of sufficient importance to demand a satisfactory explanation.

Nature always attempts to protect a diseased joint from traumatism and from weight bearing. A limp may be the attempt to protect one of the joints in the lower extremity. The constant desire to lean upon some support, or to support the head in the hands, may be an unconscious effort to take the superincumbent weight off of a diseased bone in the spine.

An awkward or clumsy child may be so because of some joint held rigid by involuntary muscular spasm. The child can no more control that spasm than it can its heart's beat.

A child presenting some of these signs may be permitted to go about with no other attention than the frequently repeated admonition of the mother, "Why don't you lift your feet?" or "Don't toe in that way; how often must I tell you!" or "What makes you limp? You mustn't do it! It will grow to be a habit!"

Friends may be consulted and the worry-allaying advice that, "The habit will be outgrown" is seized upon with avidity and accepted as wisdom. Nature's signal of alarm is thus too often ignored, and what was, perhaps, quite a preventable condition becomes irreparable.

It might appropriately be mentioned that when physical culturists, anatomical shoe makers, and other *specialists* are relied upon for a correct diagnosis, serious results may follow. Expert ability in any line of treatment is to be greatly encouraged, but the assumption of a responsibility which one is not fitted to assume, makes any such expert dangerous to society.

Orthopedic surgery, as a special branch of the art, is only about seventy-five years old. It is no wonder, therefore, that few physicians have attained great efficiency in its practice, and that so frequently physicians are equally responsible with parents and guardians for the postponement of proper treatment in deforming conditions and diseases until past the stage where perfect recovery is possible.

B'way and 69th Street.

THE COLD WET SHEET RUB.

By C. E. Atwood, M.D.,

New York.

At Vienna recently I had the privilege of studying the practical application of hydrotherapy at the Polyclinic. The department had several wards with beds and an ambulatorium. The arrangements were simple and inexpensive, as you might expect in a public establishment, but the technic, under Professor Winternitz and Docent Strasser, was excellent, and some of their methods of treatment are easily carried out in a private house. One of the simpler baths to administer, as regards requirements, is the cold wet sheet rub. All that one requires to give this bath are a tub or pail of cold water, with the "chill taken off," and a sheet. The patient comes warm, but not perspiring, from bed; a cold wet cloth is applied to the head and left on; the one giving the bath stands facing the patient with the wet sheet crumpled lengthwise in his right hand. He applies it *quickly*, beginning under the right arm, passing in front, under the left arm, around the back, and then with the left hand carries it over the right shoulder across the chest, taking in the slack and drawing tightly, and tucking the end in at the neck. Both shoulders are thus covered. The patient is then very quickly and briskly rubbed until warm, by one or two persons, beginning at the neck and going rapidly downward. Long, light strokes should be taken, the body and legs on all sides rubbed, and care should be exercised not to press (*i.e.*, bear on) in rubbing. The procedure seems simple and easy, but it requires some practice before it can be carried out with sufficient skill as not to chill the patient. Healthy individuals might therefore be practiced on at first to gain this skill.

The cold wet sheet rub may be used in catarrhal conditions of the respiratory and intestinal tracts, in conditions of altered metabolism and in some nervous conditions. It should be omitted when it has been found that the patient does not react well after it; and it is contraindicated where a heart lesion is not compensated; also in inflammatory conditions (*e.g.*, fevers) and in advanced arterial sclerosis it is contraindicated. The modified wet sheet rub., *i.e.*, where pieces of sheeting or similar material are employed in a similar way but to each limb and portions of the body separately and successively, the patient meanwhile lying in bed with unexposed parts warmly covered, may be employed with safety in severe conditions even approaching extremity.

3 East 53d Street.

RECTAL FEEDING.

By Joseph H. Barach, M.D.,
Pittsburgh, Pa.

Neither the old college professor—now relegated to the days of the past —who used to say "In these conditions we use rectal alimentation to affect the imagination," nor our contemporary who to-day says "The rectum is a good enough place to drink from, but not to eat out of," can have watched their cases very carefully and tried this method in a reasonable number of suitable cases.

It does not require a great many cases to prove the value of such a method as this. As with other clinical observations, an accurate one is worth many casual glances with their usual oversights.

In this connection a recent case has been very interesting and instructive. A patient, eight years of age, with perforation of a gastric ulcer had severe internal hemorrhage, collapse, local peritonitis, abscess formation, rupture of abscess into stomach, vomiting of pus and improvement. During a period of twelve days absolutely nothing was given, nor desired, by the mouth. The table shows the amount of liquids given daily per rectum and the amount of urine excreted.

The nutrient enemas were nearly all retained, and beyond a doubt the nourishment was assimilated—as the body contour and strength of the patient kept up wonderfully.

Day	Liquids ℥	Urine ℥	Day	Liquids ℥	Urine ℥
1	26.	18.	7	32.	16.
2	27.5	19.5	8	34.	16.5
3	28.	14.	9	33.	12 5
4	28.	16.5	10	55.	10.5
5	28.	14.5	11	47.	23.5
6	31.	18.5	12	58.	22.5

Ounces of liquid nourishment and urine—daily.

So necessary were these that when the time came for the nutrient to be given the child would ask, "Is it time for the beef?" showing that there is a sense of "Rectal hunger or thirst."

Each case is interesting and instructive in proportion to the acuteness of our observations, and there is no action so slight, no subjective symptom so unimportant, no physical occurrence that does not warrant our most earnest consideration. Very often apparent details may subsequently prove to be important factors toward the complete understanding of the disease process.

4502 Fifth Avenue.

THE MEDICAL AND SURGICAL KNOWLEDGE OF SHAKSPERE*

with explanatory comments by JOHN W. WAINWRIGHT, M.D.

(*Continued from page* 156.)

SHAKSPERE IN MEDICINE.

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motions, revolutions: these are begot in the ventricle of memory, nourished in the womb of pia mater, and delivered upon the mellowing of occasion:
—*Love's Labour Lost, Act IV., Sc. 2.*

Pia mater, (dutiful or kind mother) is elsewhere used by Shakspere but with entirely different meaning. In Twelfth Night, Act I., Sc. 5, for instance, it refers to the brain or rather, intellect. The Clown declares to Olivia "You have a relative with a most weak pia-mater." Here, however, it refers to the membrane covering the brain.

The belief was and is that the brain is nourished through the pia mater, hence to have a weak pia mater was to have a weak intellect.

The ventricle of memory refers to an ancient theory that there were only three ventricles in the brain. In the first ventricle we had the origin of the "five wits" or special senses, in the second, thought, and in the third, memory (Ventricle of memory).

This evidence—profound as it is—of the Master's knowledge of the physiology of the brain is but one of many evidences of his prodigious learning. How and where he found opportunities to acquire such knowledge amazes even the learned of to-day. If other evidence of Shakspere's right to membership in the Guild of Medicine were wanting, this and the reference to the physiological functions of digestion and assimilation as exhibited in Coriolanus, Act I., Sc. 1, would be amply sufficient.

Suffolk. For Henry, son unto a conqueror,
Is likely to beget more conquerors,
If with a lady of so high resolve
As is fair Margaret he be link'd in love.
—*Part First, King Henry Sixth, Act V., Sc. 5.*

REVERSAL OF HEREDITY.

Second Lord. That such a crafty devil as is his mother
Should yield the world this ass! a woman, that
Bears all down with her brain; and this her son
Cannot take two from twenty for his heart,
And leave eighteen.
—*Cymbeline, Act II., Sc. 1.*

Showing absence of hereditary traits of character; thus reversing the law of heredity.

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SHAKSPERE IN MEDICINE.

ACQUIRED TRAITS.

Duchess. He is my son, ay, and therein my shame,
Yet from my dugs he drew not this deceit.
—*King Richard Third, Act II., Sc. 2.*

Here we have our attention directed to the belief still held by many, that mental and moral traits of character are influenced through the character of her who suckles the child.

BLUSHING.

Friar. I have marked
A thousand blushing apparitions start
Into her face; a thousand innocent shames
In angel whiteness bear away those blushes;
And in her eye there hath appear'd a fire,
To burn the errors that these princes hold
Against her maiden truth:
—*Much Ado About Nothing, Act IV., Sc. 1.*

We have here evidence that the Master was a keen observer.

FRUITFULNESS.

Charmian. Nay, if an oily palm be not fruitful prognostication, I cannot scratch mine ear.
—*Antony and Cleopatra, Act I., Sc. 2.*

A moist or oily palm was considered an evidence of fruitfulness.

Othello. Give me your hand: This hand is moist my lady.
Desdemona. It yet has felt no age, nor known no sorrow.
Othello. This argues fruitfulness, and liberal heart:
Hot, hot and moist; this hand of yours requires
A sequester from liberty, fasting and prayer,
Much castigation, exercise devout;
For here's a young and sweating devil here,
That commonly rebels.
—*Othello, Act III., Sc. 4.*

CHILDBEARING.

Lear. Hear, Nature, hear; dear goddess, hear!
Suspend thy purpose, if thou did'st intend
To make this creature fruitful!
Into her womb convey sterility;
Dry up in her the organs of increase;
And from her derogate body never spring
A babe to honor her! If she must teem,
Create her child of spleen, that it may live,

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And be a thwart disnatur'd torment to her!
Let it stamp wrinkles in her brow of youth;
With cadent tears fret channels in her cheeks;
Turn all her mother's pains and benefits
To laughter and contempt; thus she may feel
How sharper than a serpent's tooth it is
To have a thankless child!—
—*King Lear, Act I., Sc. 4.*

Lear's curse, an unequalled effort, so horrible in its conception and forceful in its execution, is inserted as an evidence of the Master's versatility, as well as its reference to physiological processes.

DESIRE FOR MATERNITY

Theseus. Therefore, fair Hermia, question your desires,
Know of your youth, examine well your blood,
Whether, if you yield not to your father's choice,
You can endure the livery of a nun;
For aye to be in shady cloister mew'd,
To live a barren sister all your life,
Chanting faint hymns to the cold fruitless moon.
Thrice blessed they, that master so their blood,
To undergo such maiden pilgrimage:
But earthlier happy is the rose distill'd,
Than that, which, withering on the virgin thorn,
Grows, lives and dies, in single blessedness.
—*Midsummer Night's Dream, Act I., Sc. 1.*

That it is not good for man to dwell alone may be better said of woman. Speaking only of the physical side and leaving the moral issue to other and more competent minds, my observation is that the desire for maternity is natural to woman. This is strikingly apparent from the earliest age. The care bestowed upon the doll by the child is evidently but a beginning of this physiological demand, for the mature woman is but the accentuated child. She has outgrown the doll with its miniature cradle and baby carriage which gave so much pleasure and yearns for a child of her own, flesh of her flesh, blood of her blood. This desire of maternity is one of nature's laws. An attachment to some constant object is demanded which is to last through life, and in maternity is again the babe to be followed by the doll, make-believe housekeeping all to the end that such wise laws as

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governs our existence may be again and again made active. The Master gives us some beautiful examples of perfect love and enduring attachment. Rosalind, Ophelia, Desdemona, Viola, Olivia and our sweet Juliet. These are the women to whom men can bear eternal allegiance, it is not to the Ladies Macbeth.

BRAIN ACTIVITY.

Cæsar. Let me have men about me that are fat;
Sleek-headed men, and such as sleep o' nights:
Yond Cassius has a lean and hungry look;
He thinks too much: such men are dangerous.
—*Julius Cæsar, Act I., Sc. 2.*

PHYSICAL ENDURANCE.

Falstaff. Will you tell me, master Shallow, how to choose a man? Care I for the limb, the thewes, the stature, bulk and big assemblance of a man! Give me the spirit, master Shallow.—Here's Wart;—you see what a ragged appearance it is: he shall charge you, and discharge you, with the motion of a pewterer's hammer; come off, and on, swifter than he that gibbets on the brewer's bucket. And the same half-faced fellow, Shallow,—give me this man; he presents no mark to the enemy; the foeman may with as great aim level at the edge of a penknife. And, for a retreat,—how swiftly will this Feeble, the woman's tailor run off! O, give me the spare man, and spare me the great ones.
—*Part Second, King Henry Fourth, Act III., Sc. 2.*

The best and most enduring soldiers are those of spare build.

PHYSICAL COWARDS.

Bassanio. How many cowards, whose hearts are all as false
As stayers of sand, wear yet upon their chins
The beards of Hercules and frowning Mars,
Who inward search'd have livers white as milk.
—*Merchant of Venice, Act III., Sc. 2.*

In the folio edition "Stayers of sand" appears instead of stairs in the quarto. Stayers seems to convey the meaning rather than stairs. Stair is from the Anglo-Saxon *stigan* to ascend, while stay—thence stayer—from the Teutonic *stehen,* to stand. Here are cowards, not stayers. "Stayers of sand" mean vain defenses of sand to be easily overthrown, notwithstanding they represent men with warlike beards and frames.

Shylock. Some men there are love not a gaping pig;
Some, that are mad if they behold a cat;

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> And others, when the bagpipe sings i' the nose,
> Cannot contain their urine; for affection,
> Master of the passions, sways it to the mood
> Of what it likes, or loathes. Now for your answer.
> As there is no firm reason to be render'd,
> Why he cannot abide a gaping pig;
> Why he, a harmless necessary cat;
> Why he a woollen bagpipe,—but of force
> Must yield to such inevitable shame,
> As to offend, himself being offended;
> —*Merchant of Venice, Act IV., Sc. 4.*

Numerous historic references could be cited of the eccentricities of men, and Shakspere but refers to what is well recognized by the medical man.

FAULTY CIRCULATION.

> *Malvolio.* This does make some obstruction in the blood,
> This cross-gartering.
> —*Twelfth Night, Act III., Sc. 4.*

Those who for fashion's sake war upon nature, must needs pay the penalty.

> *Menenius.* He was not taken well; he had not dined:
> The veins unfill'd, our blood is cold and then
> We pout upon the morning, are unapt
> To give or to forgive; but when we have stuff'd
> These pipes and these conveyances of our blood
> With wine and feeding, we have suppler souls
> Than in our priest-like fasts; therefore I'll watch him
> 'Till he be dieted to my request,
> And then I'll set upon him.
> —*Coriolanus, Act V., Sc. 1.*

Menenius had evidently made the acquaintance of the post-prandial temper of the good liver.

> *Hamlet.* I'll tent him to the quick; if he do blench,
> I know my course.
> —*Hamlet, Act III., Sc. 2.*

To tent or probe, in this instance refers to an attack on the King's conscience, to accuse him of his supposed crime. If he do blench (blanch) turn white or pale with fear at the

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accusing, Hamlet will be convinced of his guilt and know what course to pursue.

King John. Or if that surly spirit, melancholy,
Had bak'd thy blood, and made it heavy, thick;
(Which, else, runs trickling up and down the veins,
Making that idiot, laughter, keep men's eyes,
And strain their cheeks to idle merriment,
A passion hateful to my purposes;)
—*King John, Act III., Sc. 3*

The reader will refer to the comments on the circulation of the blood on page 153.

LUSTY MANHOOD.

Adam. Though I look old, yet I am strong and lusty;
For in my youth I never did apply
Hot and rebellious liquor in my blood;
Nor did not with unbashful forehead woo
The means of weakness and debility;
Therefore my age is as a lusty winter,
Frosty but kindly:
—*As You Like It, Act II., Sc. 2.*

What a temperance lecture is here given us.

Antony. What, girl? though gray
Do something mingle with our young brown;
Yet ha' we a brain that nourishes our nerves,
And can get goal for goal of youth.
—*Antony and Cleopatra, Act IV., Sc. 8.*

Comment is unnecessary.

MENOPAUSE.

Duchess. Have we more sons? or are we like to have?
Is not my teeming date drank up with time?
And wilt thou pluck my fair son from mine age,
And rob me of a happy mother's name?
—*King Richard Second, Act V., Sc. 2.*

Cessation of childbearing and approach of the menopause.

GROWTH AND DECAY.

Jacques. All the world's a stage,
And all the men and women merely players:

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They have their exits, and their entrances;
And one man in his time plays many parts,
His acts being seven ages. At first, the infant,
Mewling and puking in the nurse's arms;
Then the whining school-boy, with his satchel,
And shining morning face, creeping like snail
Unwillingly to school; and then, the lover,
Sighing like furnace, with a woeful ballad
Made to his mistress' eyebrow: then, a soldier;
Full of strange oaths, and bearded like a pard,
Jealous in honor, sudden and quick in quarrel,
Seeking the bubble reputation
Even in the cannon's mouth: and then, the justice;
In fair round belly, with good capon lin'd,
With eyes severe, and beard of formal cut,
Full of wise saws and modern instances,
And so he plays his part: The sixth age shifts
Into the lean and slipper'd pantaloon;
With spectacles on nose, and pouch on side;
His youthful hose well sav'd, a world too wide
For his shrunk shank; and his big manly voice,
Turning towards childish treble, pipes
And whistles in his sound: last scene of all,
That ends this strange eventful history,
Is second childishness, and mere oblivion;
Sans teeth, sans eyes, sans taste, sans everything.
—*As You Like It, Act II., Sc. 7.*

From birth to senile decay. This marvellously constructed history of man is inserted, as it gives us all of life from the cradle to the grave, with so much of truth, that it may as properly have place in a work of this kind as some quotations whose meaning is rather obscure.

PULSE.

Pinch. Give me your hand, and let me feel your pulse.
—*Comedy of Errors, Act IV., Sc. 4.*

Host. :—— your pulsidge beats as extraordinarily as heart would desire.
—*Part Second, King Henry Fourth, Act II., Sc. 4.*

Alonzo. ——thy pulse
Beats, as of flesh and blood;
—*Tempest, Act V., Sc. 1.*

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Pericles. But are you flesh and blood?
Have you a working pulse? and are no fairy-motion?
—Pericles, Act V., Sc. 1.

HYGIENE AND DIETETICS.

Longsville. Fat paunches have lean pates; and dainty bits
Make rich the ribs, but banker out the wits.
Love's Labour Lost, Act I., Sc. 1.

King. So it is, besieged with sable-colored melancholy, I did commend the black-oppressing humour to the most wholesome physic of thy health-giving air; and, as I am a gentleman, betook myself to walk.
—Love's Labour Lost, Act I., Sc. 1.

Biron. Say, can you fast? your stomachs are too young;
And abstinence engenders maladies.
* * * * * * * * * *
Why, universal plodding prisons up
The nimble spirits in the arteries.
—Love's Labour Lost, Act IV., Sc. 3.

Titania. ———, have sucked up from the sea,
Contagious fogs.
* * * * * * * *
****———: and the green corn
Hath rotted ere his youth attain'd a beard:
The fold stands empty in the drowned field.
And crows are fatted with the murrion flock;
The nine men's morris is filled up with mud;
And the quaint mazes in the wanton green,
For lack of tread, are undistinguishable:
The human mortals want; their winter here,
No night is now with hymn or carol blest:—
That rheumatic diseases do abound:
And through this distemperature, we see
The seasons alter; hoary-headed frosts
Fall in the fresh lap of the crimson rose;
And on old Hyem's thin and icy crown,
An odorless chaplet of sweet summer buds,
Is, as in mockery set: The spring, the summer,

(To be continued.)

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EDITORIAL.

THE DINNER.

THE important function of dinner where all the family are pretty sure to congregate, whether it be alone the members or where friends are present, should be looked forward to with pleasant anticipation. This is often the only meal at which all can meet, and as such it should be not only for the purpose of ingesting in a perfunctory and hasty manner of food sufficient to nourish and sustain, but a rendezvous where comradeship should prevail and where every and anything which will contribute to the zest and pleasure of the occasion should be indulged. Here we should be at our best, best in spirits, in humor, with clean bodies and clean minds. Every member of the family should be allowed and encouraged to partake of the cheer, join in the conversation, relate and discuss happenings personal or otherwise of the day, ask and receive advice without restriction. There should be jollity, laughter in abundance, not at any individual present, but pertaining to happenings: anecdotes, clean humor and much amusement. A member of the family should never be displeased or harshly spoken to at the dinner table, for the mental effect will be bad, besides it will surely disturb the function of digestion. Preparation should be carefully made for this important function of dinner en famille, everything in fact which will add to the pleasure of all of the individual members from the infant to the grand sire, and every member of the family should be present at his or her best. We believe in having the baby if there be such, at dinner, just as soon as he can measurably help himself, to take part in the festivities for the educational, moral and other advantages to be gained, and attention given him will count for much in fashioning his after life. The home life, particularly the family gatherings in the dining-room will remain a picture until the end, and this picture be fashioned a part of our after lives under any and all conditions, whether it may be carried into the hovel or the palace, the prison or the church, in joy or sorrow, where tossed perhaps upon the stormy billows of life or the peace of prosperity, until the hair becomes white, the form bent, it will still be *our* picture and we will still be a part of it. Blessed be the memories of home and thrice blessed the companion and comradeship of the daily gatherings at our father's table. It is these memories of the home life which remain with us to the end.

THE PROPHYLACTIC TREATMENT OF RABIES WITH ANTI-RABID TOXINE.

OF all the great discoveries in medical science during the past, but comparatively few years, that of Pasteur in demonstrating the anti-rabid treatment for that dread disease rabies, must rank first because it was not only epoch-making in medicine, but was the pioneer work which blazed the way for research work in the treatment of the infectious diseases by anti-toxins and serumtherapy. In the light of demonstrated curative properties of these remedial agents, it would seem that there should be none that could doubt, and yet there are those benighted souls who are ignorant or perverse to this extent, however tenacious they cling to empirical methods which should long since have become ancient, and if not forgotten at least discarded therapy. But we can hug to ourselves a fact that medical as well as other branches of science advances with such rapidity that we must be up and doing not to be hopelessly left behind. Let us contemplate the results obtained through inoculation against rabies: Since the inaguration of this treatment at the Institut de Paris in 1886, there has been treated in that institution 30,000 patients, of which number there has been but 94 deaths, counting those who have died during treatment and those who died afterward. In 1905 there were 728 persons treated in Paris with but 4 deaths, one of these taking place before the treatment was finished. In 1903, 1,442 persons applied for this treatment in the Imperial Institut for Experimental Medicine at St. Petersburg. Of these 230 were refused treatment, as it was not considered necessary. Of those treated, 1,023 had been bitten by rabid animals. The majority of these persons treated came from rural districts, the larger number being men, next in number being children, while the fewer number were women. The bites were received from dogs, cats, wolves, horses, cows, pigs, sables, rabbits and rats. The number of deaths for the year were 12, or an average of 0.6 per cent.

It would seem that these figures should convince the most skeptical.

INTESTINAL DISINFECTION.

Much has been written of intestinal disinfection and antiseptics. Potter in the 10th edition of his work on Materia Medica and Therapeutics names 42 antiseptics and 26 disinfectants. Frankel in his Arzneimittel-Synthese some two hundred antiseptics. This number of preparations is proof conclusive that none of them are satisfactory.

Sodium sulfate has recently received some attention in this particular, the claim being made that it is especially useful in dysentery, infantile diarrhea and typhoid fever. It is said that these conditions improve under treatment with this preparation when the dose of the salt is short of that usually given as a laxative.

Whether the benefit which follows the administration of sodium sulfate be due to an antiseptic action, as this is commonly conceived, *i.e.*, a substance destructive to germs, is extremely doubtful. Increased peristalsis following the administration of the saline cathartics is due to the large amount of fluid in the large intestine and not as is the case with vegetable cathartics to irritation of the intestinal walls. There is retarded absorption in fact with a considerable excretion of the basic portion through the kidneys, while the acid content escapes more largely in the feces. That there is a decrease in intestinal fermentation following the use of sodium sulfate and other like products is apparent, but is this not mechanical instead of chemical. Are not the offending microorganisms disposed of through the stools instead of as some profess to claim through destruction by antiseptics?

To administer a remedy for the purpose of destroying the pathogenic bacteria in the intestinal tract is after all a questionable procedure, as such a remedy will operate at the same time against the normal bacteria, which are essential to the proper conduct of the intestinal functions and which are the most important of the measures by which these disease producing invaders are destroyed and eliminated. In fact the presence of these normal microorganisms as an army of defense and offense is so necessary to the well being of man in health and disease, and their number so far short of the requirements in diseased conditions above indicated, as well as their being weakened in their defense through the overwhelming number of the invaders, that Moro at the recent Congress of Naturalists and Physicians in Stuttgart advocated the introduction into the intestinal tract of such bacteria as it is known inhibit the growth of specific organisms, such for instance as typhoid, dysentery, etc., in fluid agar cultures per enema. This will seem to many rather radical therapy, but we are not warranted in condemning that which does not appeal to us and with which we have had no experience.

We know that sodium sulfate has been successfully used for years in the treatment of dysenteries, diarrheas and typhoid, but we are of the opinion that it inhibits the growth rather than destroys the offending bacteria and that antiseptics are when cautiously used sometimes useful locally, but seldom if at all in intestinal disturbances.

HORSE MEAT AS FOOD.

THE use of horse meat as food is on the increase in Europe, particularly in Germany and Austria. Aside from a custom coming down from primitive peoples who made use of all animals which were offered as sacrifice to the gods which were not in the rites incinerated, there exists to-day the economical question of the scarcity of animal foods in these thickly populated countries. Notwithstanding the absence of pasturage necessary for the growth of cattle, and forests where other animals subsist and multiply, statistics show that the Austrian people are the largest per capita consumers of meat in the world. For each inhabitant in Austria is consumed 245 pounds of meat annually; in the United States, 118 pounds; in England, 110 pounds; in Sweden and Norway, 86 pounds; in France, 73 pounds; in Germany, 70 pounds; in Spain, 49 pounds, and in Italy, 23 pounds. Beef is expensive and not always available, so horse meat and dogs are used for food.

"The Statistical Correspondence Magazine," Berlin, Oct. 24, 1906, states that the official returns of the Prussian slaughter houses for 1905 show that there was an increase of 33 per cent. in the number of dogs killed and used for food over that of 1904, and that there was an increase for the same period of horses slaughtered for food of 19 per cent. The total number of dogs eaten in Prussia in 1905, according to these returns was 1,568 and of horses 81,312.

It was Pope Gregory III., in the eighth century, who forbid the Christians to eat horse meat. In China, the horse has formed an article of diet for many centuries, and is largely used for such purpose in present times. The first people in Europe, after the Papal injunction, to again resort to horse meat for food in modern times were the Danish, who at the time Napoleon in 1807 invaded that country and killed all the cattle for food for his army, were compelled to resort to this practice. It is also because of Napoleon's incursions into Germany in 1815, followed by famines, that these people were compelled to resort to horse meat for food. The first horse butchery was established in Prussia in 1847, while in France in 1870 the use of horse meat as food had become prevalent.

DEATHS IN NEW YORK CITY FROM VIOLENCE DURING 1906.

IN the Borough of Manhattan alone there were 5,890 deaths reported to the coroners' offices during the year 1906, or more than 7 per cent. of the total number of all deaths in New York City. Two thousand one hundred and sixty deaths were by violence, partly given as follows:

97 killed by surface street cars.
32 killed by steam railways.
24 killed by automobiles.
17 killed by subway trains.
14 killed by elevated trains.
125 killed by ordinary vehicles.
398 suicides.
97 murders.
68 tunnel casualties.

For the week ending January 19, 1907, the Sanitary Bureau or Health Department, New York City, report contagious diseases as follows:

	Cases	Deaths
Tuberculosis Pulmonalis..	450	181
Diphtheria	313	37
Measles	186	6
Scarlet Fever............	239	9
Variola	125	
Typhoid Fever	34	12
Whooping Cough	68	9
Cerebrospinal Meningitis..	16	9
	1,431	263

HELEN KELLER.

At a recent meeting of the New York Association for the Blind, held at the Waldorf-Astoria Hotel, New York City, Helen Keller was introduced to the audience by Dr. Alexander Graham Bell, of telephone fame. She was there to "talk" to those interested in the blind. What an experience for those present. It is not likely that any one of the many who made up that vast audience will ever forget the scene or their feelings, when this sweet faced girl, with blond hair, dressed in pink and decorated with roses came forward, all a tremble with nervous fear or fright in the presence of the large audience who were ready to acclaim, in fact did repeatedly with tears streaming down their cheeks acclaim her one of the rarest of God's creatures. When Dr. Bell led to the front this marvel of intelligence, this daughter of man without sight or hearing since nineteen months old, she who has outstripped ordinary mortals endowed with all their senses, he was equally nervous. It was an unusual experience for him as it was for the audience. If she could have seen the faces in front of her, read the sympathy, love and admiration there, we think that she, poor timid creature, would have been more self-confident, felt a greater comradeship.

Dr. Bell, the gray-haired, gray-bearded man, who has brought the whole world into speaking distance of one another, with all of his senses acute, heroic in stature in comparison with the girl beside him, and upon whose arm she leaned, holding his hand in hers, ready to receive a signal of encouragement or information, brought her to the front, and this is what she said:

"The heaviest burden of the blind is not blindness, but idleness. They do not want charity, but a chance to work; they are capable of more than paying their way. Intelligent supervision of their affairs will end in endowing them with industries. The State can teach them to work; it need not supply them with raw materials or capital with which to start in business, but their fellow citizens must supply them with a market for their products and give them the encouragement without which the blind cannot make their way.

"The community must do more than this. It must meet the blind man with a sympathy that conforms to the dignity of his manhood and his capacity for service.

"I appeal to you, give the blind man the assistance that shall secure for him complete or partial independence. He is blind and falters. Therefore go a little more than half way to meet him. Remember, however brave and self-reliant he is, he will always need a guiding hand in his."

As she delivered this address, broken as it was, in an effort to interpret to those who did not entirely understand her, the pathos of her condition brought her a triumph as heartfelt, enthusiastic and genuine as was ever given human being. A thrill swept over the audience, many of whom were shedding tears, some nearly hysterical because of the depth of feeling at the unusual sight and presence of so heroic, so exalted a personality.

All the world is akin after all, and however much may be said about the lack of sympathy and charity, such scenes as this bring us nearer to a universal brotherhood. All men are not bad. Down, buried deep it may be in some of us, can be found that essence which determines us humanitarians, those who believe that man's duty is to right doing, kindness and helpfulness to others. It needs but the magic touch of such a personality as Helen Keller, to rouse us to a realization that we owe kind, loving and helpful sympathy to God's especial wards. It would seem that there was a divine purpose in sending among us such a one as is this frail bit of humanity, that we might be roused to an appreciative knowledge of our duties: that we should be so touched with pity and love that we are willing, if only for the time, to shed tears of repentance for our selfish days, aye, lives. If there be rewards in a life to come for deeds done here on earth, for having made the most of one's narrow limitations, surely Helen Keller will be a queen among the chosen.

SUCCESS.

It is not the man who accentuates obstacles or who invariably anticipates failure that we are patient with or attracted by; not the man who views every suggestion as an attempt to impoverish him; who recoils from the hearty salutation or the warm hand clasp; who sees lurking in every act of others evidences of a design to attack his reputation or to him infinitely worse, the purse; who sees proof of an unholy alliance when those of opposite sex are cordial to one another. Such a man is a misanthrope, a pessimist, and sooner or later will become a hypochondriac, a misfit in all his relations with others. He will succeed but measurably if at all, and walk alone because it is next to impossible to have any pleasure in his company; he is—a joy killer. The man who succeeds is he that views the pathway of life with the golden hours of probability; who regards the rungs of the ladder by which he ascended as veritable jewels, reflecting hope and lighting the way to the temple of achievement. He may be visionary; seem unsubstantial, altogether impracticable, but he is sure to believe in himself and in his fellowmen; he will see the opportunities offered, will meet them more than half way, will love his wife and children, count the price of nothing that will add to their comfort or happiness; will have friends who sooner or later will take him at his own valuation, which is sure to be high. This is the man who wears the epaulets, enjoys public esteem and whose check is never protested; one who succeeds; who is an optimist.

THE FUTURE OF INDIA.

It is said that at the present rate of increase the population of, particularly Southern India, will double in 88½ years. What will follow this increase in a country where the products of the land now barely suffice to furnish food material for the existing population is fearful to contemplate. If this increase shall proceed, in 177 years the present crowded population will have been quadrupled.

As is well known there is a limit to land which may be used to grow crops and feed stock which must also increase in proportion with the inhabitants, and be utilized for food. The more the earth is cultivated the more sterile it becomes and the less water for irrigation, while food becomes numerically scarcer and higher priced. Must it be that relief can come as in the past only through famines? What a future to contemplate.

A HISTORIC NEW ENGLAND VILLAGE.

In the beautiful Litchfield Hills of Northwestern Connecticut lies nestled the historic little village of Norfolk. Within the village is to be found a cemetery, which contains headstones bearing dates as far back as 1767, attesting the death of personages, whose names are familiar to almost all Americans. It was here that a company of thirty-five men was formed, who under the leadership of Capt. Timothy Gaylord, marched overland to the relief of Lexington. We do not know how many of these men returned to their homes, as none of their names appear in this cemetery which was not, however, located until sometime after the War of Independence. This village was incorporated in 1758, at which time it contained twenty-seven families. It had been sold at auction Tuesday, April 2, 1738, by order of the Assembly, and again in 1750, at Hartford, where the Dutch from Manhattan settled in June, 1632, on twenty acres of ground which they had purchased from the Pequot Indians. "Here lies Michael Humphrey, Esq., who died January 26, 1778, aged 75 years." On the stone is also carved the following epitaph:

"Both characters of Church and State
Can not redeem from death's cold fate
But if with sin you live at war
Eternal glory you shall share.
Reader draw near, to my advice attend,
Confidently prepare for your last end."

Michael Humphrey was one of the original proprietors of Norfolk, became Deacon and Moderator in the village church and Justice of the Peace.

We find this to be the final resting place for all that was of this world of Henry Aiken, who died 1788, aged 84 years, and of Ebinezer Burr, also one of the original proprietors and Town Treasurer, who died March 12, 1794, aged 82 years, and his wife, Hepzibah Burr, who died in 1772. On the headstone of Ebinezer Burr we find the following:

"He shall come to his grave in a full age, like as a shock of corn cometh in his season."

Also Samuel Gaylord who died April 14, 1776, aged 66 years, and Thankful, his wife, who died March 15, 1797, aged 88 years. Of more recent dates we find Silence Emerson Edmonds, wife of John Wm. Twiss, who was born 1804, died 1894. What memories of lives and deeds of truly great men, of not alone New England or America, but of the world, names which stand for broad statesmanship and culture does this name call to mind, Emerson, Edmonds. A grandson of this lady is now living in Norfolk.

Mrs. Thanks Phelps died and was buried here in this cemetery in 1767, and the following epitaph is carved on her tombstone:

"Behold and see as you pass by,
As you are now so once was I,
As I am now you must be,
So prepare to die and follow me."

We also find the grave of the Reverend Ammie Rahamah Robbins, who died October 31, 1813, aged 73 years. This worthy soul was pastor of the Norfolk Congregational Church from October 28, 1761, until his death, his salary for the first two years being £62 10s. Afterwards it was raised to £70 in lawful money. In 1767, the pastor agreed to receive instead of money, compensation in pork, beef, wheat, rye, Indian corn, iron, cheese and tallow at reasonable prices. In addition to this he was given the tract of land reserved by the Assembly for the minister, as was usual in New England in pioneer days.

This Congregational Church consisted of twenty-three members, was built in 1759, and "painted outside the color of peach blossom." No attempt was made to warm the building, attendance was compulsory, a committee being appointed to see that this requirement was lived up to. The people were called to service by the blowing of a horn. Sabbath day houses were built near the church, in which open wood fires were made on the Sabbath. Members brought their lunch in saddle bags and partook of same in these houses, during the interval between morning and afternoon services. The worshippers were allowed to carry a foot stove into the church during service, in which were placed live coals from the fires in the Sabbath houses. No warmth was provided by the church for seventy years. The church policy was regulated by the citizens at their town meetings, music and other church affairs being debated and settled at these meetings. Women sat on one side, the men on the other, while boys had a separate place with the tything man in charge to keep them in order. The sermon was an hour in length, measured by an hour glass which stood on the pulpit in view of the congregation. No religious service at burial of the dead was indulged in, nor were Christmas, Good Friday or other festivals or feast days kept, as they too much resembled the service of the Church of England, from which these Puritans had escaped. Prayer meetings were regarded with suspicion.

The Reverend Joseph Eldridge succeeded Reverend Robbins, and ministered to the communicants for forty-two years, an unusual term of service in one church. Doctor Eldridge was greatly beloved and respected by the residents regardless of their affiliation with his congregation. His name and character is a part of the history of Norfolk, Conn.

It was in Norfolk that James Maas, at the age of 8 years, was sold into slavery by the Rev. Mr. Thompson in 1798, to a Mr. Elizur Munger.

Physicians will be interested in the manner in which Ezekiel Wilcox contracted smallpox (?) in Norfolk and from which he died; a man, name not known, had the disease, residing some 25 rods south of the meeting house. Mr. Wilcox came only as far as the front of the meeting house (some 25 rods) and talked with the man, then contracted the disease from which he died.

It is related that a Miss Rosanna Pettibone, who resided in Simsbury, Conn., wished to purchase a wedding dress. She made a piece of checked linen, some 50 yards, and offered it for sale. A Samuel Forbes, carrying on an iron business in Canaan, Conn., some 8 miles west of Norfolk, employed a number of men and paid a high price for this kind of cloth, selling it to his men who used it for making shirts. Miss Pettibone hearing of this took the cloth which she had made and on horseback went from Simsbury through Torrington and Winchester to Norfolk, from where in company with a brother, Giles Pettibone, she proceeded to Canaan, sold her cloth to Mr. Forbes, being paid in iron which was delivered in Hartford, and here the iron was exchanged for goods with which to make her wedding dress.

One hundred and fifty men enlisted from Norfolk for service in the Civil War, and but precious few ever saw their homes again after leaving.

William H. Welch, M.D., of Johns Hopkins University at Baltimore, was born and grew up in this humble New England village. He came from a family of physicians, his father and five brothers being of that profession.

THE TREATMENT OF CANCER.

R. Reyburn, Washington, D. C. (*Journal A. M. A.*, November 10), considers cancer to be a disorder of senility or of retrograde metamorphosis of the tissues, most frequent when animal food is largely consumed and rare when a vegetable diet is the rule. It is an error of cell development, he states, depending on the retention of waste matter in the system, and he therefore emphasizes the importance of preventive treatment. He recognizes two classes of cases (of women) subject to cancer, the anemic, which call for iron, unstimulating and digestible foods; and the plethoric, whose only cancer symptom may be a slight sanious discharge and who require depleting measures. He believes that the success of surgical methods would be much greater if always combined with appropriate medical treatment.

LONDON LETTER.

A lecture of an interesting nature was given at the Institute of Hygiene, London, on February 20, by Dr. George Carpenter, the subject being "The Rearing of Children." One of the principal features of the lecture was the severe indictment by Dr. Carpenter of the lethargy and negligence of our authorities in allowing the milk supply to continue in its present unsatisfactory condition. He pointed out that untold infant lives were sacrificed to the demon "Dirt," and the health and physique of innumerable others were seriously undermined by this and also by the wholesale supply of tuberculous milk.

The British War Office, probably stimulated by the illuminating results of the effects of good sanitation on the health of the troops and in lowering the death rate of the Japanese army during the recent Manchurian campaign, has at length determined to initiate reforms in the sanitary methods which prevail in the British army. From this time on sanitation will form a part of the training of both officers and men of the British forces. With this laudable object in view, annual courses of lectures are to be given by competent officers, while an official text-book has been prepared and will be issued shortly to the British army. All lieutenants after March, 1908, will be required to pass an examination in sanitation before they can become captains. The entire matter of sanitation in the field and in home barracks and camps has been entered into in a broad-minded spirit by the British army authorities, and when it is considered what an immense number of men have been sacrificed in past wars to neglect of sanitation, it may be thought that reforms in this direction have come somewhat tardily.

Cerebro-spinal fever seems to have taken a firm hold in certain towns of Scotland, in Glasgow especially, and in the north of Ireland and in Dublin. A few cases have appeared in London and sporadic cases in some other parts of England. The epidemic in Glasgow and in Belfast is of a virulent character, about 50 per cent. of those attacked having succumbed, the greater part of the mortality having been amongst children. The health of Belfast, the largest and most important city from a commercial point of view in Ireland, has been exciting for some time the alarm of its inhabitants. The British Government has decided to authorize the Local Government Board of Ireland to appoint a commission to make inquiry and to report on various points connected with the health of Belfast.

So far the results from the serum, the joint discovery of Professor Kolle, of Berne University, and of Professor Watterman, of Berlin, which has been given a trial in Glasgow, have been negative. This serum is stated to have had most beneficial effects in checking the course of the disease in certain parts of Europe, and the public health authorities of Belfast telegraphed to Berne University for a supply. It seems indeed that therapeutic measures are practically useless in the treatment of cerebro-spinal fever. The Royal Commission on Vivisection, which is now sitting in London, is pursuing the even tenor of its way. Several important witnesses have been examined, but of course no definite results have been reached as yet. The examinations are lengthy and it will be a considerable time ere the outcome of the investigations will be known. The London Ambulance Committee held its first meeting on February 14. The discussion of the matter is to be conducted in private, but it is generally believed that the upshot will be that an adequate service of rapid transit vehicles, modelled on the New York ambulance system, will be established.

The milk question is becoming more and more acute in London; in fact, in all parts of Great Britain the subject is arousing much interest. The findings of the British Commission on bovine and human tuberculosis, that these diseases are intercommunicable and that the chief agency of conveyance is infected milk, have certainly aroused the British public. Another instructive result of the researches of the British Commission was the conclusion of its members that tuberculosis is fairly frequent in swine, a point editorially referred to in THE DIETETIC AND HYGIENIC GAZETTE, February, 1907.

A bill is to be introduced into the British Parliament soon which proposes that from April 1, 1910, all the present weights and measures used in Great Britain shall be substituted by those of the metric system, and that Parliament shall order the imperial standards to be altered and officially issued as metric standards.

The *Edinburgh Medical Journal*, one of the oldest and perhaps the most important monthly medical journal published in Great Britain, has just changed its editorial control. Its new editors are Professor Harvey Littlejohn and Mr. Alexis Thompson, both prominent figures of the Edinburgh medical world.

The Registrar-General's Sixty-eighth Annual Report for Great Britain has just been published, and provides some very instructive reading. From this it is learned that in 1905 the loss of life by disease in England and Wales was less than in any previous year on record. The fall in the urban group of counties was considerably more marked than in the rural. The report also points out that among common infectious diseases the most fatal in early infancy are whooping cough and measles.

Lord Lister will celebrate his eightieth birthday during April and, according to the *Lancet*, it has been suggested that the event would be commemorated suitably by the republication of his scientific papers prefaced by a short biography. It is stated that a number of Lord Lister's friends and admirers have expressed their warm approval of this means of celebrating his birthday, and it is proposed to form a committee representative of medicine and science to determine how the above object can best be attained.

An International Congress of School Hygiene will be held in London during the month of August. A discussion has been going on in the *Lancet* for some little time in regard to the value of currants as a food. A large amount of bread freely punctuated by currants is being sold in London at the present time, and is highly lauded by certain papers as being digestible and generally beneficial to health. A well-known London physician recently wrote to the *Lancet* stating that as a matter of fact currants were the reverse of digestible and were certainly not a fit food for children. This letter provoked a reply from an upholder of currants as a food, and other correspondents have argued the question. On the whole the consensus of opinion is decidedly against the currant as a food. Dr. Carpenter, in his lecture on the "Rearing of Children," before referred to, said that bread containing currants, which was much used nowadays, ought not to be given to children, as currants were exceedingly indigestible.

SIMPLICITY IN INFANT FEEDING.

The advantage of simple, not too formidable mathematical, rules for the percentage of milk feeding of infants is suggested by C. W. Townsend, Boston (*Journal A. M. A.*, February 16). There is less liability of error by the mother or nurse, it is easier for the physician to prescribe and it is natural to presume that the less the manipulation generally, the better for the milk. It is better to get a clean cow's milk and modify it to suit the case than to try to improve an unclean milk by centrifugalization or Pasteurization, and as the dilution of whole milk would cut down the fat too much it is necessary to begin with a cream as the basis. He prefers pouring off the top milk as the simplest and, on the whole, the safest method of obtaining the cream and one giving very uniform results. As a rough rule, one may remember that in a quart of milk that has stood at least four hours, the upper six ounces contain about 14 per cent. of cream, the upper 8 ounces 10 per cent., the upper 12 and 16 ounces about 8 and 6 per cent., respectively. The amount of fat must be regulated by the appearance of the stools, and it is better, as requiring less manipulation, to dilute this top milk with water than to combine a rich cream, a lower or fat-free milk and water. Instead of pure water, a cereal water can be used in even the youngest infants, and some have difficulty in digestion without it. After the age of 6 months a cereal modification is better for all infants. It is safest to begin with a mixture weak in all its ingredients and increase the strength gradually. A newborn baby can be put on a mixture of only 3 ounces of the upper 8 ounces of top milk in 20 ounces, and the strength increased by adding half an ounce of top milk and abstracting an equal amount of water every second day until 8 ounces of top milk are given in a 20-ounce mixture. Many infants who have failed on such modified milk mixtures will, he says, respond at once when these simple principles are borne in mind. In a note he gives a simple rule for percentage calculation and explanatory formulas for those who care to use the method.

CAFFEIN.

In the *New York Medical Journal* for November 17 (from La Clinique), Claise calls attention to the grave symptoms and even serious results following the use of caffein in large doses, and especially in certain conditions. Triloubet also declares that caffein, although a valued therapeutic agent, is a brutal medicament, the action of which is extremely difficult to regulate. In the first place, when given hypodermically, it often exites local inflammation when the drug is deposited too superficially under the skin. Secondly it is a powerful cerebral excitant, and capable of causing maniacal delirium, especially in aged persons. In elderly persons a primary stimulation with caffein is liable to be followed by weakness of the myocardium. Although serviceable in urgent cases of grippe to avert a tendency to collapse, and in typhoid fever in young subjects, it is a remedy that should always be mistrusted, and one should be careful in exceeding the ordinary dose, and be always on his guard.

CERTIFIED MILK IN SMALL CITIES.

C. W. M. Brown, Elmira, N. Y. (*Journal A. M. A.*, February 16), gives the experience of Elmira, a city standing almost at the bottom of the list of towns with 30,000 population or over, in securing a certified milk supply. Six physicians were selected by the Elmira Academy of Medicine, who gave their personal attention to the matter and were appointed as a milk commission. They called a joint meeting with the milk dealers, to which not more than twenty of the latter responded; they listened respectfully and did nothing. A personal canvass was then made with the better class of dealers, and one was found, a woman, who had already some acquaintance with the requirements of producing clean milk. After some consideration she took up the work, built a new barn and had her herd tested for tuberculosis. The commission selected its experts and the first certificate was issued April 15, 1903. A 10,000 bacterial count standard was established, which has only been exceeded twice in three years. Butter fat 3.5 to 4.5 per cent. and other usual conditions were imposed. The milk is bottled a few minutes after milking, put in a crate, the top of which is filled with cracked ice, whence it is delivered to customers. Notwithstanding the producer's indisposition to advertise, the sales have gradually increased, and besides supplying local consumers the milk is shipped daily to Binghamton and New York City. At present another dealer, also a woman, has begun to sell highgrade milk in bottles, and there has been an improvement in the milk supply generally. The city health officer is on the commission, and through his influence an excellent ordinance governing the sale has been passed. The milk inspector of the local board of health has been made a State deputy health officer, thereby empowering him to enter on the premises of the producer. Brown believes that what has been done at Elmira can be accomplished within the next twelve months in a score of other cities of like population which are now without a clean milk supply.

WHY PERCENTAGE FEEDING FAILS.

The causes of the numerous failures in percentage feeding which tend to bring the method into disrepute, are accounted for by H. Lowenburg, Boston (*Journal A. M. A.*, February 16), by the confusing multiplicity of methods proposed, giving details instead of general principles, by the lack of intelligent application of the methods when used, and the tendency to try to follow details and to obtain impossibly accurate percentages. Too much also is expected in the immediate gain in weight of the child and the result is consequently disappointing. The biologic and physiologic differences between cow's and human milk are not sufficiently recognized, and this is one of the chief causes of failure. Sufficient care also is not given to prevent contamination of the milk supply and the time between the cow and baby should be shorter. Another cause of failure is lack of diagnosis of the cause of the indigestion, whether of fats, sugar or proteids, which each call for a different modification. The failure of the physician also to think in percentages instead of going by formulas of ounces, etc., is pernicious in its effects and physicians also too often fail to teach the mother or the untrained nurse the details of the mixing methods, assuming that they would not follow them out if instructed, and at the same time they do not themselves sufficiently supervise the feeding. Children thus fed by percentage methods should be seen at least once a week and details noted of the child's progress in weight, the condition of the excretions, the amount of sleep, times of feeding, regularity of feeding, etc., and every detail of infant hygiene. The easiness of preparation of proprietary foods is another misleading factor. It deludes parents and thoughtless or indolent physicians into losing their sense of responsibility. As a makeshift or temporary food, as on a journey or when cow's milk can not for the time be obtained, they are of service, but as permanent infant food they are a snare.

MILK MODIFICATIONS.

D. R. Brown, Salem, Mass. (*Journal A. M. A.*, February 16), goes to considerable length into the calculation and formulas for accurate milk modification in infant feeding. While some of these appear decidedly complicated, he summarizes them more simply toward the close of his paper. As he says, it is not necessary to remember all the percentage figures as indicated at different ages. Until the child is 10 or 11 months old, at any rate, the proteid percentage is not less than 1/3 nor more than 2/3 of the fat percentage, and as the ratio of fat to proteid decreases with the increasing age of the child from 3 to 1⅛ one need not be at a loss as to the suitable modification for the infant at any age, and the impression that frequent changes must be made in the amount of food and in the percentages prescribed, he states, is a mistaken one. While it permits the exercise of great skill in adapting the foods to the needs, in particular conditions, it also admits considerable routine practice in the case of the healthy child. One must keep in mind the principle that except certain abnormal or diseased conditions, mixtures with the fat percentage ratio exceeding 3 should not be used continuously for any length of time, as they are not sufficiently nutritious, while mixtures in which the ratio is below 1½ needlessly tax the digestion and invite disorders. Directions are given for the use of whey feeding in some detail. In the case of the feeble infant a more detailed and elaborate study of the special needs of the child, in order to supply it with the food its condition requires, is essential, instead of leaving the matter of the milk supply to the average milkman and the special modifications to the manufacturers of "patent" foods. The mixture usually required, if suitable milk is used, or analysis if the milk is known, may be computed by the working equations or reference to the feeding charts.

SALINE SOLUTION.

In the *Journal A. M. A.*, for November 10, J. Madison Taylor states that increasing experience in the employment of physiologic saline solution (6-1000) by the mouth in all febrile states, encourages him to present certain conclusions. The fluid media, the body fluid, the blood, depend for their most important activities chiefly on an adequate proportion of chlorid of sodium, whatever role the other salts may play. We fail to preserve economically the integrity of the immunizing principles of the blood, if we wait until the system is practically overwhelmed by toxins, and until the overworked kidneys can withstand no further sudden assaults of toxic waste. The saline solution should be used early and constantly from the outset to the end of all fevers. For in fever at all marked, the loss of the blood's main salt, sodium chlorid, is not replaced, owing to restricted diet, anorexia, and the many factors which cause the patient to reduce greatly the intake of normal food. His method is to give, to all children in whom a rise of temperature occurs, freely of the normal physiologic saline solution (6-1000), usually half an hour before feeding time, every three hours. They are encouraged to drink all they will. For infants the saline solution is used in the modification of milk, and in diluting whatever food is used. Children rarely object to the saline taste, which indeed is scarcely perceptible, and soon become accustomed to it. He has no exact data as to the elimination of the skin and kidneys. He hopes to interest the profession to employ this exceedingly simple, convenient, eminently rational, auxiliary treatment. It furnishes in reality a form of food and to his mind is the essential principle of febrile dietetics.

TYPHOID FEVER.

In the *Medical Council,* for November, Samuel E. Earp believes that in intestinal hemorrhage in typhoid fever whatever must be done, must be done quickly. All food must be interdicted for at least 24 hours and quietude and rest must be produced by the hypodermic use of sulphate of morphia. He has used adrenalin chlorid and ergot subcutaneously and, he believes, with good results. In typhoid fever he uses the tub-bath, but when hemorrhage occurs, he stops it, and when temperature is high has the patient sponged with cold water, but not rubbed dry, believing that the evaporation yields an advantage. He questions the value of the Leiter coil on the abdomen and if any medicine is given by the mouth, it should be benzosol, salol or sulphocarbolate of zinc, though it may be wise to withhold these for 48 hours. Water may be given in moderation and the usual morning enema stopped. He deems it proper, however, to relieve the bowels by an antiseptic enema as soon as the condition will permit. In such conditions he uses 60 grains of the chlorid of calcium to a quart of hot water twice a day by means of the fountain syringe at an elevation of 20 inches. For three days, 30 grains are given in a quart of water once a day. Between the third and fifth day sulphocarbolate of zinc or benzosol may be given in three grain doses, three times a day, and he is partial at this time to the use of 15 drops of turpentine in emulsion every four hours. If absolutely necessary, sulphate of strychnin and the normal salt solution may be used and it may be necessary to use light liquid diet, especially if exhaustion is threatened. He advises the use of intestinal antiseptics after the hemorrhage has disappeared and as a rule he uses the tub-bath again when there have been one or two bowel ejections with no evidence of blood.

SCARLET FEVER AND DIPHTHERIA EPIDEMIC.

During the week ended January 26, 295 cases of scarlet fever and 1,005 cases of diphtheria were reported to the department of health in Chicago. The contagious ward in the Cook County Hospital is crowded to the limit of its capacity. The health department states that it has found the scarlet fever to be in part due to unclean returned milk bottles and to the handling of milk by infected individuals. As a result of inspection many dairies have been closed. Many schools have been fumigated and the street railway companies have been induced to agree to fumigate the street cars. Tonsillitis and other forms of sore throat are exceedingly prevalent. Physicians all over the city and suburbs are reported very much overworked because of the unusual amount of sickness. Several cases of measles are reported from Maywood. Sixteen deaths from pneumonia were reported to the health department January 21.

PREVENTION IN CHILDREN OF DISEASE IN THE ADULT.

Batta, *Gazetta degli Ospedali* (*Jour. A. M. A.*), expatiates on the great importance of detecting the tendency to certain affections in their early stages and curing them before they become irreparable. Scoliosis, for instance, is seldom diagnosed until the deformity is well established. Spasms in a child are attributed to worms or other causes, not to latent epilepsy, until when grown to adult age he has the typical epileptic seizure. Bronchial asthma in the adult may have been heralded by slight asthmatic disturbances in the child to which no one paid attention. If the course of ideas, slight psychic deficiences, etc., in children were better studied and guided many adults, he says, might escape insanity later. Umbilical hernia in the adult is the result of umbilical hernia in the child, which, although possibly healing spontaneously, leaves a predisposition for later recurrence. The same might be said of inguinal hernia. The daily bath for infants may induce icterus later in the predisposed if the temperature and other conditions are not carefully regulated. As the child grows, attention should be paid to its harmonious development, whether the great cavities of the body are developing proportionately to its size, etc. The physician watching over the development of a child, Batta states, can guide it to the harmonious proportion between its various organs and parts, which is the best safeguard against disease. Preventive medicine has to be based on accurate observation to be effectual. Its field is particularly encouraging in children as they are in the formative period, but it requires a constantly vigilant eye and a skillful hand. The physician, becoming counsellor in hygiene for the family, can educate the parents to direct the steps of their children into the ways of health.

THE TREATMENT OF LATERAL CURVATURE.

R. W. Lovett, *Journal A. M. A.*, considers the subject of lateral curvature, which probably exists to some extent in 25 per cent. of school children. Two general types are recognized: the postural or functional and the structural. The first and most common of these is a malposition within the normal range of movement of the spine, and does not necessarily imply any organic change. Its prognosis is good; it is to be corrected by simple gymnastics and a "setting up" drill, thoroughly carried out for a sufficient length of time with conditions rendered favorable. The structural type, of which a characteristic feature is the backward prominence of the chest or loin on the convex side of the curvature, the reverse of that in the postural type, due to the twisting of the vertebræ in addition to the lateral curve, is much more serious and calls for more active measures. Its surgical treatment is considered under two heads: First, treatment to loosen up the spine and to make an improved position possible; second, treatment to secure permanence of the improved position once this is attained. These are discussed separately: The first under the heads of free standing gymnastics, gymnastics given in apparatus, passive stretching of the spine. Stretching by means of plaster-of-Paris jackets (forcible correction), details of all of which are given. Plaster-of-Paris jackets are advised to be employed for short periods (from one to three weeks), and then removed to be replaced by others as long as it seems possible to obtain further correction. These frequent changings are advisable so as to prevent as much as possible the atrophy of the muscles incident to fixation of the trunk. To retain the improved position, the intelligent use of gymnastics is of great importance and details of exercises of the groups of muscles are given to a certain extent. Some form of retentive apparatus should also be employed until the muscles are strong enough to permit its being left off. Lovett insists on the importance of thorough measures in these cases.

FIRST AID TO THE INJURED.

Marcus H. Thomas, *Journal A. M. A.*, calls attention to the importance of railroads, from an economic standpoint of instructing their employes in first aid to the injured. He states that it is a matter of public comment that in spite of improved safety appliances railroad accidents seem to be on the increase. He quotes statistics showing the proportion of killed and injured in these accidents on American railroads and takes up particularly the casualties among railroad employes alone. He calls attention to the needs of the situation from a forensic standpoint, and says that there exists to-day a lack of co-ordination between the legal and surgical staffs as a result of the one failing to grasp the importance of the other's work. He believes that here is a new field for the student of medical jurisprudence, and contends that the surgeon who is qualified in negligence law is in a position to render the most effective and economic service as an adjuster of personal injury claims. He calls attention to the work of the National First Aid Association of America, and reiterates the necessity for instructing railroad employes in first aid.

Effect of Posture on Kidney Functioning.—Some recent experiments by Jacques are related in the *Province méd.*, No. 35, 1906, which show that kidneys enfeebled by disease functionate differently as the patient stands or reclines. It is important to examine the urine after the patient has been standing or walking and again after he has been reclining. In 14 out of 15 nephritic patients the amount of urine increased to three times its former amount as the patients reclined, and the elimination of urea and of chlorids was increased in 14, and of the phosphates in 5. In 9 patients the proportion of albumin in the urine also subsided to a marked extent. As convalescence progresses the difference between the urine of the various postures becomes less and less pronounced.—*Jour. of the A. M. A.*

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by FRANKLIN W. BARROWS, M.D.

"THE REGULATION AND ADVANCEMENT OF NURSING."
"THE SPREADING OF CORRECT INFORMATION REGARDING THE DUTIES AND LIMITATIONS OF NURSES."
"THE PROPER RELATION OF NURSES TO THE MEDICAL PROFESSION AND THE COMMUNITY."

THESE are the "objects" of the "Pennsylvania State Committee on Nursing." On another page we print the committee's recent circular on "The Question of State Law for the Registration of Nurses." In reproducing this bit of campaign literature, *verbatim et literatim*, we believe we are dealing justly with both parties in this so-called "wild scramble"—with the nurses, because we are giving them a sample of the sort of opposition they must meet in seeking legislative recognition, and with the committee, because we give their circular a chance to speak for itself without garbling or misrepresentation. Here it is.

The logic of this circular is remarkable. The trained nurse is bad enough right now, it tells us, but were she allowed to register her evil qualities would become "accentuated" to such a degree as to make her "a positive danger" in the sick room; therefore registration is not conducive to the public welfare, but is liable to "jeopardize the life of the patient." By the same token registration is likely to injure the cause of the nurse; for if the "hospital trained nurse" keeps quiet and remains incog she is likely to get some employment, "the best there is," indeed, but if she comes into the open and registers "it will only be a little while before doctors will refuse to employ" her.

This logic might be worked with equal force against our practice of identifying criminals, and we wonder that some of these public - spirited Pennsylvanians haven't thought of it. The criminal, you know, is a bad man anyway. Now if you record his name and thumb mark and place his photograph in the rogue's gallery where all may see it you "accentuate" his evil qualities and thereby "lessen his usefulness" and jeopardize the welfare of the community. Nay, more, you are operating against his "own best interests" by placing him in such an awkward position that the public will refuse to have dealings with him.

If the "hospital trained nurse" in Pennsylvania is "a positive danger" in the sick room or if she threatens to "jeopardize the life of the patient" in consequence of having had "special marks of distinction" conferred upon her, then she is to-day a dangerous character, little better than a criminal, and should be not only registered but exposed to the glare of publicity, to the end that she may be avoided and, eventually, exterminated.

But the seventy or more excellent gentlemen who constitute the "State Committee on Nursing" do not believe this stuff about trained nurses. They say it, but—and now we wonder how many of them would say it! And would these doctors admit the cogency of the same arguments as they might be employed against the registration of physicians? Do Pennsylvanians find by experience that the graduated physicians "claim too much" or that the law under which they are registered and licensed is "a positive menace to the public good"?

The circular smells of smoke and politics.

But State registration tends "to lead the average nurse to assume too much," and "lessen her usefulness," and this is demonstrated by the examination questions in a Western school in 1904 and in New York State in 1906. More smoke! Finale: the obnoxious New Jersey incident. But one swallow doesn't make a summer, even in New Jersey, and one Tom's River trial doesn't make a summary of the status of nursing as a profession.

Now what is the real motive of this diatribe to which the pretentious committee of seventy honest men—for "Brutus is an honest man"—have lent their names, if not their sanction? It is *hostility to the trained nurse,* then, now and always. This sentiment is very thinly veiled in the third paragraph with its farcical solicitude for the best interests of the friends of this bill. The only nurses for whom the seventy entertain any real interest are "those of less pretensions, but of greater usefulness," that is to say, those who have not been "hospital trained."

Now every sensible person admits the necessity of a class of untrained or partially trained nurses, but no sensible person will admit that these nurses, as a class, are qualified by reason of their lack of training to render better service in the sick room than those who have passed through the ordinary course of hospital training. As for the "hospital trained" nurse, she is willing to stand comparison any time with the nurse "of less pretensions" and to let the unprejudiced physicians of Pennsylvania or any other State decide which is "of greater usefulness." If the seventy members of the "State Committee on Nursing" are trying to obliterate the line that separates the trained from the untrained nurse, then are they by their own confession any better than those whom they affect to despise, the fakirs in medicine, although every one of them may have taken the precaution to comply with the law of Pennsylvania regulating medical practice?

The three "objects" of this committee are highly commendable and very clearly stated. We respectfully suggest to these seventy doctors that if they really mean business they will have to back up and start over again.

A NATIONAL VISITING NURSE ASSOCIATION.

FORTUNATELY for the earner of small wages, and for the nursing profession as well, the question of suiting the services of the nurse to the needs and resources of the patient continues to receive its due share of attention. It will be an unprecedented surprise if all the discussion of this problem does not evolve a solution which shall be satisfactory to the public and creditable to the nursing profession.

It is our privilege to present on another page a new proposition from an expert on the economics of nursing, Miss Charlotte A. Aikens, Associate Editor of the *National Hospital Record.* Her plan is worthy of thoughtful consideration, because it offers a national agency for coping with a defect that is national in its extent. It does not stand in the way of any local organization of nurses that is inclined to adopt the plan proposed by Miss Poole and discussed in recent numbers of the GAZETTE. Indeed, a general organization such as Miss Aikens advocates would serve to strengthen and co-ordinate the efforts of all local agencies for the expert care of the sick poor.

We invite a general discussion of this question, to which our pages shall be always open.

JUSTICE FOR THE PUPIL NURSE.

LAST month, in our leading editorial, we promised our readers the privilege of acquainting themselves with Dr. Bristow's article on the present system of nurse training. We regret that, owing to an oversight, his paper, which was then in type, was set aside with other matter intended for the April issue. It will be found on another page of this number.

Those who have a hand or a voice in the training of nurses will do well to pay attention to Dr. Bristow's criticisms and suggestions, and, we venture to add, they may get some stimulus from the comments in the March GAZETTE, which we take this opportunity to reiterate.

Recent developments in New York City reveal a strong inclination to return to the two-year course of training. The future will see a most searching inquiry into the alleged defects of our present methods; and this must inevitably result in a purging and simplifying of the curriculum. What is this but progress?

Then those worthy individuals who are sure that they cannot know too much in justice to their ideals of nursing, will find abundant chances to continue their education three, five or ten years, or *ad infinitum,* if you please, while other nurses, on a lower plane to be sure, get busy with the work of nursing.

FETCHING A NURSE FROM THE PHARMACY.

WHAT a fine thing it would be if one could get a certificated nurse as easily as he could have a prescription filled at his pharmacy! "Certainly sir. Leave your address here and we will send the nurse at once." Would it not result in fewer idle hours for the nurse and more and better care for the sick?

This idea is incorporated in the scheme which Dr. C. T. Brandow, of Locke, N. Y., has proposed in the *New York State Journal of Medicine*—a scheme for the establishment of a system of stores owned and incorporated by the medical profession and conducted in accordance with the most enlightened conceptions of business and professional ethics. These stores would be managed by registered pharmacists in whom there is no guile, and their motto would be *"Purity and Protection to Physician and Patient."* Dr. Brandow develops his plan in considerable detail; in fact, he draws a picture of the ideal pharmacy and points out the first steps along the road to its achievement.

The feature of this plan which interests us most just now is "a nurses' record for the convenience of physicians, nurses and the public." It is a suggestion that merits careful consideration on the part of nurses' organizations, especially in large cities. We all know how difficult it is at times, even for physicians, with all the assistance of the existing registries, to secure good nurses. If first class pharmacies had the reputation for supplying competent nurses as well as pure drugs, there would be fewer patients relying on home care or self help in the course of a moderate illness.

One stubborn objection obtrudes itself—the besetting sin of the pharmacist. Would he, could he, always resist the temptation to substitute? How very easy to say, when business is rushing, "Sorry, Mr. Layman, but we are just out of trained nurses to-day. May I send you something else *just as good?*"

CLEAN OBSTETRICS AMID UNCLEAN SURROUNDINGS.

OUR modern conceptions of cleanliness in medicine and surgery are so strict that at first thought it would seem impossible to attain to this fortunate state without enforcing a code of rules and restrictions many of which are quite impracticable outside of a well ordered hospital.

But it should be said to the lasting credit of medical science that while we have formulated the most rigid and exacting technic for attaining and maintaining antisepsis and asepsis, within the almost ideal environment afforded by the modern hospital, we have not stopped there, but have shown the doctor and the nurse how to fight and win the battle against germs amid the filthy and unwholesome surroundings of the tenement and lodging house. The student who derives his notions from the up-to-date text-book or from actual observation in the well-kept hospital will be filled with consternation at the mere sight of some of the dens in which human beings are fated to sicken and suffer, and his amazement will turn to enthusiasm as he learns how skilfully all adverse conditions are combated and even utilized in the transformation of defeat into victory.

In short, such are the exigencies of the situation that in our practice we seem to repudiate some of our most cherished theories as to the reality of germs and germ diseases. The discrepancy is apparent, however, rather than real. The truth is that we are learning the essential conditions of cleanliness and how to enjoy these essentials without all the external accompaniments which we try to secure when possible.

This development of medical skill is well exemplified in the service of the well conducted dispensary or visiting nurse organization. But the finest examples to which we can point are in the obstetrical services maintained for the out-patients of our great hospitals. Several large cities are provided with such facilities for out-patient work, and there is, of course, a degree of similarity in their systems of technic. It is not unreasonable to assert that no doctor or nurse can claim to be liberally educated without a knowledge of some one of these institutions and its methods.

Dr. Joseph B. De Lee, writing for the December, 1906, number of *Surgery, Gynecology and Obstetrics,* describes the service of which he has charge in the out-department of the Chicago Lying-In Hospital and Dispensary. The article gives one an excellent idea of the medical phases of this service and reproduces a number of the blanks used in making reports, recording histories, etc. The few extracts that we append will give some idea of the organization of the Dispensary and the opportunities of the nurses connected with it. A method that is attended with such excellent results commends itself; it needs no advocate:

The out-department, or dispensary service, is of much greater interest to the practitioner, because over fifteen hundred obstetric cases are treated yearly in the homes of the poor and poorest in Chicago, with a mortality and a morbidity that challenge the work of the best maternities in the world.

This home service is conducted from the Dispensary, situated in the heart of the poorest district of Chicago. The building was designed and constructed especially for the out-maternity service, and has the following rooms: living-rooms, with kitchen and dining-room for four internes, eight students, and four nurses, also for the necessary domestic servants; three examining rooms and one large waiting-room for patients, which are used for the treatment of pregnant women, the diagnosis of pregnancy, and the mensuration of the pelvis; an office with telephone for the reception of calls to labor cases, and for dispatching the attendants to the cases; sterilizing rooms for the preparation of the dressings, the filling of satchels, etc.; a library and writing room, in which the students and internes write the histories of the cases; and a museum and laboratory.

The internes are licensed graduate physicians, and have a six months' service. The students are accepted only in their senior year, and have a two weeks' service. Both internes and students live at the Dispensary and devote all their time to the work.

The administration of the work is in the hands of a graduate nurse, who also lives in the building. She determines the succession of calls for internes and students, arranges for the post-partum visits by students, nurses, and internes, and she is acquainted with the condition of every mother and baby under the care of the Dispensary.

CARE OF WOMEN DURING PREGNANCY.

Pregnant women make application at the Dispensary in the latter months of gestation, are entered in the large application-book, under a serial number, and are given cards correspondingly numbered.

CARE DURING PREGNANCY.

It is impossible, for financial reasons, to give all the pregnant women all the care that women in such condition should get. There are on the books about 350 waiting cases all the time. Examinations of the urine are made only in suspected cases, and in women who have had urinary trouble in previous pregnancies.

Owing to the immense amount of post-partum work required of the internes and students, it is impossible to make routine pelvic mensuration in all cases, but the nurse issuing the application card to the patient makes regular inquiries into the history of her previous labors, and, in cases of primiparæ, refers small or deformed women to the Wednesday and Saturday clinic of the writer. Thus far very few cases of contracted pelvis have escaped detection. The women, however, will not follow the advice we give, with the purpose to avoid complications at labor, preferring to take their chances at term than to allow us to induce labor before it.

Latterly, the applicants have been supplied with a printed set of rules, reproduced at the end of this article. The results cannot yet be determined, but they should be good.

At present the patients are instructed in the fundamental rules of the hygiene of pregnancy by the nurse issuing the application card, and referred to the clinic for further attentions.

DURING LABOR.

When labor begins, the application card is sent to the Dispensary, or its number is telephoned there. An interne, *one* student, and if possible a nurse, are sent to the home of the patient. A satchel is taken along which contains everything needed for a normal labor.

On arriving in the house the interne first acquaints himself with the general condition of the patient and the probable rapidity of the labor. If labor is just beginning, he orders an enema given, and after it has acted he prepares the woman, or if the nurse is present, she does this. The pubic hair is closely clipped and then the patient is washed with soap and water from the ensiform to the knees, and after this with 1 to 1500 bichloride.

The antispetic solution is used liberally all over the parts, especially the vulva, but no douche is given.

The bed is dressed with the cleanest linen the house affords, and the patient dons a clean night-gown and wrapper.

Newspapers, clean, and, if possible, fresh from the press, are used under the patient. If there is a supply of towels or sheets, these are placed over the newspapers, but we have found the papers a very useful and satisfactory substitute.

The room is cleared of all unnecessary furniture, bedding, chicken-coops, domestic animals, and litter of all sorts. A side-table or bureau and two wooden chairs are retained. The satchel remains on the kitchen-table, and its contents are spread on the clean newspaper mentioned in the list. Before handling anything in the satchel, both student and interne wash the "street dirt" off their hands. The bureau and chairs on which rest the basins with solutions, cotton-jars, etc., are covered with newspapers, for the double object of keeping these clean and to avoid injuring the furniture of these indigent people. In the absence of a bureau or side-table, two chairs with the ironing-board or a table-board across them answer the purpose admirably.

After the patient is thus prepared, the interne begins the labor record and having obtained the general information required, proceeds to the external examination. There is a certain method in the performance of this examination, as indicated by the order of the points on the labor record, and the interne must follow this order and teach it to the student. It is fundamental to the technique of the whole system employed in the Dispensary and the Hospital, and also in the writer's own practice.

In the abdominal examination the interne determines, and demonstrates to the student and nurse, the presentation and position of the child, the nature of abnormalities, the heart tones of the fœtus, and the strength and action of the pains. The size of the child is estimated and noted, then the pelvis is measured, and the general relations of the one to the other are compared and discussed. Now the parturient is prepared for the internal examination.

Near the bed are placed two pans with solutions, one with 1 per cent. lysol, the other with 1-1500 bichloride of mercury. The patient is brought near the edge of the bed, the covering drawn down, and, if there is such in the house, a clean sheet is used to cover the patient. In the absence of a sheet, a clean newspaper or a towel is used. The rules for washing the hands are rigidly observed by both interne and student, and are repeated before each and every examination. The rubber gloves are boiled in plain water for ten minutes and drawn on, wet, after the hands have been sterilized. This is not the writer's method of using gloves, but is necessary in the Dispensary practice. We have not facilities to furnish dry sterile gloves. The dry glove, drawn on over the sterile hand, dried and powdered, is, in the writer's opinion, the ideal method. It is practicable only in hospitals and private practice.

In making the internal examination, the points of information are obtained in the order given on the labor record, the reasons for this being for asepsis and system, which avoid the possibility of overlooking important features. The student is now allowed to make an internal examination, under the guidance of the interne, who coaches him and tells him how to find all the structures, etc. The importance of the internal examination is impressed on the student, and he is shown how it is possible to conduct a labor without frequent vaginal exploration.

The progress of the labor is carefully observed by the interne and student. Frequent *external* examinations are made, and the fœtal heart tones counted at least every hour. The interne describes the mechanism of labor to the student as the phenomena of the function unfold before their eyes, and the labor is discussed from all points of view. These colloquia at the cases are of utmost value to student and nurse, and pass the otherwise profitless time of "watchful expectancy" in a most interesting and profitable manner.

The blank reproduced at the end of this article is filled out and sent to the Dispensary. These blanks keep the office informed of the condition of all women in labor. A blank is also filled out and sent or telephoned to the Dispensary *immediately* on the discovery of any abnormality in the labor.

No internal examinations are made now unless there is some indication, like delayed labor or abnormality in the presentation or position, until the second stage begins. After the membranes rupture, an examination is always made, to determine the degree of dilatation and a possible prolapse of the cord.

The interne, the nurse, and the student stay with the parturient, unless the labor is very slow, in which case the interne returns to the Dispensary for a few hours. *No case is left entirely in charge of the student; all deliveries are attended by the interne.* This necessitates the employment of five internes, and is expensive, but it is the only legal, the only just way of doing obstetrical work.

As the second stage draws nigh, the bed and room are prepared for the delivery. Fresh newspapers replace the soiled ones under the patient, fresh antiseptic solutions are made up, the scissors, artery-forceps, and tape are laid in the lysol solution, and all arranged, with a jar of cotton pledgets, on the side-table as before described. The interne's gloves are reboiled for the delivery. The leggings are put on the patient and she is brought to the edge of the bed, on her side, toward the best light. All patients are delivered on the side, as this is more cleanly, easier to manage in the low beds, which sink deeply in the middle, and perineal lacerations are more easily prevented and detected.

During the second stage the vulva and surrounding area are liberally sponged with both lysol and bichloride solutions. The practice of the institution is antiseptic. We attain asepsis by antisepsis, and the writer ascribes the freedom of our patients from puerperal infection to the use of rubber gloves and the antiseptic treatment of the external genitals. In over seven thousand consecutive cases of labor, only one puerpera has died of infection, and fever cases are rare. These results were obtained in the most unfavorable surroundings, amid filth, and often infection. The principle of the "limitation of the field of asepsis" is practised rigorously. By this is meant that the smallest number of hands, of aseptic basins, of towels, of instruments, enter into the conduct of a case, and that only the vulva and the area *immediately adjoining* are considered aseptic, and both are frequently drenched with antiseptic solution.

The writer believes that most large operating rooms err in this regard. Too many basins, too many instruments, too many towels, too many hands (assistants and nurses), too many tables, enter into the *sterile* field of work. The number of articles to be sterilized is so large that the chances of infection are magnified. The principle of the bacteriological laboratory should prevail in the operating room: the absolute sterility of the few articles that come in direct contact with the wound. While all things else are sterilized, they should not come in contact with the wound.

In the Dispensary service, instruments for operative delivery are sent to a case only after the interne has decided that intervention is necessary, and thus the percentage of operative deliveries is small—not over 4 per cent.

The second stage of labor not seldom lasts three or four hours, and only a few times has a child been lost as the result of this waiting policy. The internes are instructed to watch both mother and fœtus carefully throughout labor, and report at once to the director if either seems to be in immediate or prospective danger.

The principles for protection of perineum are:

1. Deliver on the side.
2. Retard descent till the elasticity of the perineum is fully developed.
3. Deliver the head in forced flexion, but don't press on the head through the perineum. All pressure is applied to the head directly.
4. Deliver between pains.

The anus is kept in sight throughout, not covered with a pad; and any escaping fæces or mucus is promptly sponged away with cotton soaked in one-per-cent. lysol.

After the head is delivered, the parturient is turned on her back for the delivery of the trunk. The student is now given the control of the uterus, with instructions not to massage it, but simply to note its consistency and action.

When three or four minutes have elapsed, or when the pulsation in the cord near the vulva begins to weaken, it is tied and cut about one-fourth inch from the skin. The child is wrapped in a warm diaper and blanket and placed near the stove.

The interne demonstrates the physiology of the third stage to the student and nurse. Both watch this part of the labor, noting the occurrences and abnormalities on the history-sheet. We teach that the third stage is as important as the two others combined. More women die in the third stage.

The treatment of the placental stage by the Dispensary is not the active Credé, nor yet the passive expectancy of Ahlfeld. Experiments by the writer in this practice have shown that neither course meets the conditions. A "modified expectant plan" is employed, and the results are good, as we have never lost a case from post-partum hemorrhage, and the number of placenta removals is very small—less than half of 1 per cent.—and the number of severe hemorrhages is also small. Disturbances in the puerperium due to errors in conduct of the third stage have seldom been noted.

In brief, this is the method of conducting the third stage: As the trunk of the child is passing the vulva the assistant's hand follows down the receding uterine tumor; if the uterus does not contract well, this hand gives it a gentle, evenly distributed massage. As soon as the uterus contracts, the hand is allowed only to rest smoothly on the fundus, to give information of its action. If there is no external hemorrhage, if the uterus remains firm, retracted, does not balloon out with blood, nothing is done. Note is made of the advent of after-pains, uterine contractions, and their effect on the size of the uterus, the hemorrhage, the separation of the placenta, and also of their frequency. Unless there is some indication to interfere, thirty minutes are allowed to elapse before trying to express the placenta. If the signs of separation of the placenta and its extrusion into the lower uterine segment are positively present, the interne is allowed to express the placenta a few minutes before this time. These signs are, the advancement of the cord, the rising of the uterus upward toward the liver, the change in shape of the uterus, from globular to a flattened ovoid, with a sharp fundus, and the presence of a soft boggy mass above the pubis. The change in the tension of the blood in the cord is also noted. When the interne believes the placenta is loosened and lying in the upper vagina and cervix, he asks the woman to bear down, which failing to bring the placenta, he practises "early expression." He waits for an after-pain, brings the uterus to the middle line, having made sure that the bladder is empty; then using the contracted uterus as he would a ball, he presses the placenta out of the vagina with gentle, steady pressure, If the operation is unsuccessful, he has made a mistake in the diagnosis, and waits twenty minutes before making another attempt. If the second attempt fails, then a Credé expression is tried. In this maneuver the uterus is grasped in the whole hand, and, pressing down as in "early expression," the fingers and thumb are squeezed together, forcing the placenta out "like the pit from a cherry." It is rare that a second Credé is needed. In such cases the third stage is abnormal.

If hemorrhage, either external or internal, occurs, the labor is regarded pathologic, and the above method is altered. The uterus is massaged briskly till firm contractions are produced, and if the bleeding continues, the uterus is emptied, by Credé, or, if absolutely necessary, by hand. As was said, such cases are rare.

The membranes are not twisted into a rope, the writer believing that this cuts off the tender chorion, but are *slowly* drawn from the uterus by gentle traction. Sometimes five minutes are consumed in extracting the membranes. Pieces of retained membrane are not removed, unless they give rise to hemorrhage. If a piece of placenta is missing, it is always removed then and there. The antiseptic precautions for such removal, and indeed on all occasions when the uterus is entered, are redoubled. After the delivery of the placenta, with few exceptions a dram of ergot is administered.

The perineum is now cleansed with an antiseptic solution and inspected very carefully for injuries. Tears deeper than half an inch are sewed up, and the event is made a regular operation.

A roller-towel is improvised for an abdominal binder, a sterile pad is laid over the vulva, the bed is dressed with a clean sheet, and the patient is given a hot drink.

The infant is not bathed, as the facilities for an aseptic bath are never at hand, and also because bathing chills it too much. It is laid on a pillow on a table, near the stove, and oiled all over with warm olive oil. This is wiped off with a clean towel, then the cord is washed with one-per-cent. lysol and dressed with dry sterile gauze pledgets. No powders are used. The eyes are carefully treated from the moment the face is born. First, the face, forehead, and eyelids are wiped clean with cotton pledgets wrung dry out of one-per-cent. lysol solution; then the lids are flushed with boric acid solution from the bottle; then after the child is dressed, a drop of one-per-cent. nitrate of silver solution is put in each eye, followed by salt solution. Great care is exercised to keep all foreign matter out of the eyes, in delivery and in dressing infant. An infected eye does not occur once a year; that is, in twelve hundred cases.

Before leaving the house, the interne must see to it that the following points are noted:

1. That the uterus is firmly contracted and in normal position;
2. That there is no hemorrhage, either internal or external;
3. That the placenta is positively complete;
4. That all perineal tears are attended to;
5. That there is no hemorrhage from the infant's cord;
6. That both mother and babe are in good condition.

He takes pulse and temperature of the mother, inquires if she has headache (eclampsia), and, in general, satisfies himself that everything is right.

To attend to all these duties, fill up the history-sheet, and repack the satchel requires all of two hours after the child is born, which gives ample time for the early complications, if any, of the puerperium to occur.

On his return to the Dispensary the interne turns the labor-satchel over to the nurse for resterilization and refilling, then enters his return on the card, with the nature and mode of termination of the case, finally stamping it with the time-stamp.

(*To be continued.*)

NURSES FOR THE SMALL WAGE EARNER.

By Miss Charlotte A. Aikens.

Associate Editor of the *National Hospital Record.*

The question as to the best means of providing nurses for the small wage earner is still to the front apparently no nearer a solution than it has ever been. It is like the "servant problem" and "the poor," always with us. The short course schools and the correspondence courses have set out to meet the need. Thus far, no feasible plan that would more than touch the fringe of the need has been tried.

The demand for a class of nurses, less skilled and therefore less expensive than the trained nurse is a demand national in its scope, and any real remedy will need to be formulated on lines capable of expansion to meet the demand. In other words, the remedy as well as the need requires to be considered on very broad lines. The plan of depending on graduate nurses who do not happen to be otherwise employed, is not a plan that will ever prove adequate to the need, though there is no doubt that in occasional cases it might be some help.

The need of some form of affiliation or federation between the visiting nurse associations of the country has been felt and expressed from time to time. It is thought that the formation of a National Visiting Nurse Association would give an impetus to the establishing of local visiting nurse centers, and, in many ways, strengthen the movement. This has been done in England with very happy results and without any radical overturning of the methods of any association. One result of being organized on a large plan has been the extension of the work to rural communities and villages where it would have been impossible otherwise to have had it started. Thus, it has followed, that many a poor woman in the remote country districts of Ireland and Scotland has had the same benefit of skilled nursing that she would have had if she had lived in the heart of the city of London. And the nurse in the little Irish village is not alone. She is not an isolated worker. She has behind her the force of a great movement that is ever widening and growing stronger. Such an association under efficient leadership and management, could handle the problem of supplying nurses for the small wage earner, as it can never be handled without it. Organization, education, and legislation will all have to be brought to bear on the great question. Why should the two movements be considered separately? Practically every visiting nurse is now at work in the home of the small wage earner, accepts such remuneration as they are able to make for her visits, and expects to instruct somebody as to what to do for the patient in her absence. There are few district nurses who have not on their lists, cases, where a visit once a day, or twice a day does not meet the need. Some one must stay with the patient continuously. If the visiting nurse could call once or twice a day to supervise the work of an attendant, and give special treatments, the most of such cases would fare not badly with an intelligent attendant. A national visting nurse association could undertake to organize classes and courses of study and lectures for attendants for the sick and employ graduate nurses as supervisors of these attendants. A registry of such attendants could be kept at the local headquarters of the visiting nurse and a scale of wages be arranged for them. Thus the whole matter would be under proper management and supervision. The attendants would be trained as "*attendants*" or as "*nurse's assistants,*" only. They could be trained to regard the graduate nurse as an instructor, a superior officer, whose position must be respected if they wish to remain on the registry. Instead of leaving the Young Women's Christian Association or the short course, or the correspondence schools to fill a constant and pressing need, cannot the trained nurses assume the responsibility of arranging such classes and giving instruction and supervision?

While we naturally look for trained nurses to lead in such work it might as well be understood at the outset that no organization composed exclusively of nurses can ever handle the question. It is not a matter that concerns them personally, as much as it concerns the general public. In a national association the general public, including physicians and laymen, as well as nurses, should be represented. An organization something on the order of The National Child Labor Committee, composed of prominent, representative, wide-awake, aggressive men and women who will bury petty differences, and work together, is what is needed.

If such an organization were once effected, there is reason to hope it would meet with public favor and financial support. Thousands of people would gladly pay a membership fee of one dollar or two dollars a year to such a cause. All over the country are graduate nurses who would be interested in pushing it, and securing members. There are probably at least fifty thousand graduate nurses alone, whose membership fee should mean a considerable extension of visiting nurse work. It would, of course, take years to get such work established throughout the country, but most great movements are of slow growth. If the problem is ever solved it will have to be approached in some such way.

With a national organization, a national headquarters at some central point, possibly Chicago, and a capable general secretary who should be a graduate nurse to push the work of organization, handle the necessary literature, and keep the work before the public, such a movement would soon make itself felt. There would then be less demand for the graduates of the short course and correspondence schools. It is one thing to rail at the methods of the promoters of such schools; it is another thing to get down to real business, and work together to lessen the demand for such work, and perhaps, in time, render it unnecessary.

DR. ANITA NEWCOMB MCGEE has received a medal from the Japanese government in recognition of the services she and her corps of American nurses rendered in the Russo-Japanese war.—*Journal of the American Medical Association.*

IF the crusade against tuberculosis is to be successful, hand in hand there must go with it the crusade against dust and dirt.—*Journal of the A. M. A.*

IS THE PRESENT SYSTEM OF TRAINING FAIR TO THE PUPIL NURSE?

By Dr. A. T. Bristow,
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My address this afternoon is not intended as an unfriendly criticism of the present system of training nurses. It is far from my wish to invite more or less angry retort, nor do I desire to provoke intemperate rejoinder or the retort with which our childhood days were familiar—"you're another." It is rather the purpose of this paper to invite discussion to a subject which needs discussion, not with heat, but calmly and dispassionately with the desire to get at nothing save the truth. Nothing is ever gained on either side, if there are sides to this question of the trained nurse, by recrimination, nor will heated editorials with much calling of hard names serve to elucidate matters. To use a somewhat overworked phrase, what we need is light, not heat. Moreover, co-operation is necessary between nurses and doctors. We cannot do our best work or even very good work, certainly in public institutions, without your aid, and I do not suppose that you will question the assertion that you need the support of the doctors.

The present system of training has been the slow growth of years. For the most part it works well, and furnishes society and the medical profession with a body of highly trained women whose work both in public and private has been beyond serious criticism. It was, therefore, with some surprise that the writer read in the pages of one of your special journals that the system was a failure and the doctors were the cause thereof, since the medical profession had been running the training schools all these years. This was an entirely novel proposition, for the writer is connected with six hospitals, either as attending or consulting surgeon, and was entirely unaware that his colleagues were engaged in any such occupation. Training school committees to be sure there are, but their function has been largely ornamental or at most advisory, the advice given being accepted or not at the will of the superintendent of nurses. Against this fact I have no complaint. The function of the superintendent of nurses is to govern her school, and in my experience she has rarely been interfered with. Indeed, I know of no instance of interference. The results have been admirable. Yet as a result partly of economic conditions peculiar to hospitals, partly from what I believe to be mistaken ideas of instruction, much injustice is at present meted out to the pupil nurse, and if certain so-called reforms are carried out as set forth in a recent proposed scheme of education by your State Board, a much greater injustice will be worked upon the pupil nurse and the public.

Let us take up for discussion first then certain practices of hospitals toward the probationer and young pupil nurse. In the training school prospectus of many hospitals there is a clause which permits the discharge of the probationer at any time during the time of her probation without the assigning of any reason therefor. This probationary period is often six months, never less than three. A number of nurses, two of them in official positions, have stated recently to the writer that it is the practice of some large hospitals during the spring and fall cleaning to enroll a much larger number of probationers than they can possibly require for the severest selective purposes, put them at work and then get rid of the supernumeraries under this very convenient clause. I ask you to kindly remember that this charge is not made by the medical profession, but by some of your own association who are or have been in positions, presumably, to know the facts. I prefer, however, to think that this is an extreme statement. Nevertheless, I have personally known of instances of great injustice, due to the application of this rule. It has dangerous possibilities and is altogether unfair to the probationer. It is un-American. Why should she be denied the reason for her discharge unless the person discharging her is afraid to give the true reason? If you do not intend to apply the rule, why put it in the prospectus? It is certainly liable to dangerous abuse. You take the girl's time, you sometimes take her money, and then, without either compensation or explanation cause her to lose both, since if she enters another hospital she must still serve a probationary term. Moreover, the hypocritical statement is made that the declination of a candidate is no reflection on her character, although every training school superintendent within reach of my voice knows perfectly well that she would exercise extreme reserve in admitting as a probationer a young woman who has been rejected after probation in another hospital. If she was short of nurses she might try her. I contend that the probationer is entitled to the reasons for her rejection. A very fair method is that of one superintendent known to me, who at the end of two months warns unsatisfactory pupils, but permits them then to exercise their own discretion as to continuing their probation. I also contend that a hospital has no more right to rob a girl of several weeks or months of her time, during which she has been worked hard at menial tasks, than it has to take her money. I admit the discretionary right of choice, but the present arbitrary and secret methods are outrageously unjust and ought to be modified or restricted. One prospectus treating on this subject says rather significantly that candidates are expected to bring with them the means of returning to their homes if unsuccessful. After three or four months in a large city, I wonder how much of this return money would be available. I once knew a case where a girl was literally turned out into the street with just five dollars in her pocket, her home being Canada. And this was supposed to be an institution of mercy!

Much of the work required of the probationer is distinctly not nursing. She enters a hospital to be taught the intelligent care of the sick, but instead of this she is, in many hospitals, set to do the work of a chamber or kitchen maid. She dusts, she scrubs, she washes dishes. In short, is set to do all sorts of menial tasks for which the hospital, lacking the probationers, would be compelled to hire the proper class of labor. That is exactly what they ought to do in the first place. But you say this is a period of trial and is meant as a test. I doubt whether you would consider it necessary to put a medical student at work digging trenches or cleaning the streets so as to find out whether he would make a good doctor. The lesson of neatness can be taught in the care of the sick, and not by the use of the scrubbing brush and the dishcloth. Why waste the time of the nurse on such tasks unless it is to save the wages of a domestic? You wrong your young pupil doubly since you distinctly incapacitate her to receive the instruction which is her due, for a tired body means a tired brain and an inability to receive or retain knowledge.

Your present registration law requires a nurse to pass but two years in a hospital, whereupon she becomes eligible for examination for the title of R.N. I conclude, therefore, that it is the opinion of your board that a woman can be made a competent nurse in that length of time. If that is your opinion, then every additional year that you compel the pupil nurse to serve the hospital is in the nature of tribute, a sort of hospital graft extorted by the power of combination. Most hospitals compel the pupil to serve a term of three years, and some require four years of servitude. I say servitude advisedly. During that three years of hospital work, were you not by day and by night, Sundays and holidays, the actual property of the hospital? Do you know of any other apprenticeship, be it in trade or art, which can compare in severity and bondage with that of your apprenticeship? Much of this severe discipline is no doubt essential to the proper regulation of the work, yet some of you are proposing to make it more arduous and longer, although your own law tacitly admits that a two years' course is sufficient. I am quite willing to confess that I was formerly in favor of the three years' course, though I deny that I have ever been of the opinion that it took four years to make a good nurse out of an intelligent woman. After a good deal of experience with nurses, and as a result of much observation, I am sure that I was in error when I favored the extension of the course to three years. I am now of the opinion of your board, that two years is enough. So here is one doctor who is willing to confess to the errors of his ways and, what is more to the point, do what he can to further a return to the shorter term so wisely advocated by your board, as voiced by your law. If a young woman is not a competent nurse at the end of the two years' course, she will not be competent after three years, nor four years, nor twenty years, and hospitals which are extending the term of this industrial slavery are simply getting for nothing services worth at least sixty dollars a month. That is not charity nor religion. It is high finance. Moreover, the hospital takes good care to exact payment of tribute to the uttermost farthing. It will have its pound of flesh to the last grain. Should one of you fall ill of typhoid fever, contracted while nursing in the wards, you are allowed to graduate with your class provided your illness is not too long, but afterward you must serve the hospital until you have paid up to the last moment for your absence from service. If this is not industrial slavery, I do not know what is. Present conditions are hard enough. I beg of you to consider before you make them harder. It has been said that the doctors are to blame for some of the existing evils, especially the overtraining. I have read over carefully the proposed curriculum for training schools, and was forcibly reminded of the reply of one of the kings of Israel to a certain petition: "My little finger shall be thicker than my father's loins. For whereas my father put a heavy yoke upon you, I will put more to your yoke." I doubt whether the king's petitioners got much comfort from his answer. If, as a nurses' association, you are really interested in the future of the trained nurse, I ask you to read carefully the proposed curriculum as published in Bulletin 28 of the New York State Education Department, June, 1906, and then say frankly whether my quotation is not apt. This appears to be the nurses' solution of the problem, but I venture to hope that it is not the solution which your association will finally accept.

Do not, however, mistake the spirit in which I address you. I have nothing but admiration for the motive which prompts your State Board in publishing this curriculum, and the effort which you are all making for the betterment of present conditions. It is possible, however, to raise your standard too high. It is possible to be unjust to your pupil nurse when you require her to study a lot of things which have as much relation to nursing as surveying and navigation have to medicine. The course is hard enough as it is, both mentally and physically, and it ought not to be overburdened with non-essentials. Permit me therefore to discuss this proposed curriculum in a fraternal spirit. May I remind you of the notice posted in a church in Texas: "The audience is requested not to shoot at the organist. He is doing his best." There is an economic side to this question. There ought to be a reasonable proportion between the time taken to acquire marketable knowledge and the market value of that knowledge. Thus a man or woman could fairly be expected to spend seven or eight years in preparation for a life work if the average income afterward is to be $1,500 or $2,000. I think I hear some of you say to yourselves: "Why that is ridiculously inadequate for so long a course," So it is, but is the income of the average trained nurse anything like that? There are careers in life, however, in which the actual income bears a very small proportion either to the value of the services or the time taken in preparation therefor. Thus the highest income which a man can expect in the Army or Navy is $5,500, and this only after years of service on a salary which will not average over $3,000, and several examinations for promotion when in the medical service. After retirement, however, the officer draws a pension of two-thirds his pay at the time of retirement. This is equivalent to an unassailable capital of $50,000. Is there any such prospect open to the trained nurse? If she loses her health in the line of her duty, is there anyone who stands ready to pension her for the rest of her days? You see, therefore, from the economic standpoint, that the time taken in your education ought to bear a reasonable proportion to your expectation of income and the permanency of your employment. It will be useful here to inquire as to these matters. First, as to income. I have taken some pains to get at the actual average income of the average nurse by inquiry of the nurses themselves, and I find to my utter astonishment that it is a little more than half of what I supposed. If any one had asked me to state a figure, I should have said between $900 and $1,000, but the nurses say that it will not average over $650, taking the good years with the bad and the enforced absence due to personal illness and over-fatigue. Now, as to the permanency of employment. The estimate of the average duration of nursing life has been given me as low as seven years, and in no instance has the estimate been higher than ten years. I do not mean to say that there are not now in active service nurses who have been nursing for a longer period, but they are certainly the exception. The duties of the position are so severe that only a relatively young woman is equal to their fulfillment. In view of these facts, I respectfully ask you whether a woman ought to be required to surrender from five to eight years of her life in preparation for so brief and so illy paid a career. But you ask me how I get these figures? Look at the requirements of many of your training schools. There are not a few which insist that the applicant must be a high school graduate. That is a four years' course which, added to a three or four years' course in the hospital, is seven or eight years respectively. Your proposed course since January, 1906, compels a stay of one year in a secondary school. So if you add this to the three years which most hospitals require, the shortest time of actual preparation is four years. Do you think the return warrants the outlay? I am perfectly willing to admit the truth of all the fine things that are said about a nursing career, nevertheless it is just that a young woman should weigh all these things before she enters the school. It has been my experience that very many nurses, perhaps the majority, have others depending upon them for support. You may say all the fine things you like about the nobility of your career and its self-sacrifice, but that won't help you to take care of your old mother or give you the means to assist a young brother to get his education. In other words, if you are going to so increase the educational requirements that there is an absolute want of balance between them and the pecuniary results after graduation, two things will happen. Young women will seek other ways of earning a living and the so-called ten-week schools will flourish, the correspondence schools will increase in number and audacity, and we doctors will get a great many more cards from agencies for "experienced nurses" than we now do, and the public will avail themselves of these under-trained and incompetent women, to your great detriment. There is no escape from this conclusion.

I regret that a due regard for your patience and the length of time I have already detained you forbids a full discussion of your proposed curriculum. It does not seem to me to be a course that can be covered in less than four years. Perhaps I underestimate the capacity of the pupil nurse, but let one example serve to illustrate what I mean. Take for instance the sixteen days' course for probationers. In this time the probationer is to be taught, besides all the practical work of the hospital, eighteen lessons in theory and practice of nursing, eight lessons in elementary anatomy and eight lessons in bandaging. The practical work includes the care of rubber goods, care of helpless or stretcher cases, taking temperature and pulse, charting same, bedside notes, preparation for mustard pastes, stupes, poultices, care of toilets, bedpans, catheters, douche nozzles and instruments, enemata, purgative and nutrient, stimulative. Space and time forbid me to name all that these probationers are to be taught in sixteen days. Of the eighteen lessons on the theory and practice of nursing I mention only one or two: The metric system, signs and abbreviations, weights and measures; administration, value of the different methods, classification of drugs; a general knowledge of the preparation, strength, dose, physiologic action, poisonous symptoms and treatment, of aconite, alcohol, arsenic—to cut the list short—of no less than fifteen poisons. The eight lessons in anatomy outlined for this sixteen day probationary term would occupy a diligent medical student at least two months to get even the most superficial acquaintance with the topics given. Under the head of bandages, not less than a dozen are mentioned which the pupil is to be taught in the same preliminary period of sixteen days. One is tempted to inquire whether, if pupils can be taught all these topics in sixteen days, there is any use in even a two years' course. As one reads the remainder of the proposed curriculum, it appears as if a great deal of time and energy has been devoted to the acquirement of knowledge which has little real bearing on nursing the sick. If I was asked to state what the function of the trained nurse is I should answer, first, to care for the bodily needs of her patient; second, to carry out the orders of the physician; third, to record the vital phenomena of the patient. Everything that the nurse does must come under one of these heads. Yet in the proposed schedule of instruction we find such matters as the following: Lesson 2, mineral food, mineral waters. Salts: amount found in the body; necessity in food; food value in heat, energy, tissue building. Kinds: calcium, sodium, phosphorus, magnesium, iron, sulphur, potassium; uses in body, etc. Under the head of practical work the pupil is given a little excursion into blow pipe analysis and is required to apply the flame test for sodium, potassium, calcium, strontium, by borax bead and Bunsen burner. In another lesson the pupil is given instruction on sugar, comparison of sucrose, glucose, levulose, lactose, with source, preparation, composition, properties, digestion. From these lofty heights the pupil descends in the practical work to make cranberry jelly. She bakes an apple and makes peanut brittle. Evidently the nurse who survives this course will be a chemist, a physiologist, a cook and a confectioner. Anyone who cares to peruse the pages of this remarkable course will find paragraph after paragraph of instruction concerning abstruse chemical and physiological subjects which have absolutely nothing whatever to do with nursing the sick. I do not believe that four years would be too long to really complete this course, and at the end of that time we should have a nurse with a lot of knowledge of not the slightest use to her or her patient, at least two years of whose time would have been wasted in the acquirement of a lot of theory without bearing on her work. Why should the nurse be taught urinalysis or the use of the microscope, as set forth in one prospectus, or the manufacture of the various culture media used in a bacteriological laboratory? A nurse has responsibility enough without burdening her with the responsibilities which are distinctly those of the doctor. All these things simply increase the labor of the pupil in the hospital, take her time and her energy and are perfectly worthless in the end.

If there is in life any harder task than that of the pupil nurse, I should like to know what it is. She is on her feet ten to twelve hours a day for eleven and a half months in the year. She has few holidays, little relaxation and an enormous lot of hard and often repulsive work. She rises by rule. She eats her meals, mostly bad, by rule. She is a hospital machine. How any body of merciful women can have it in their hearts to increase her labor by loading her down with all sorts of useless theory which she will promptly forget is beyond the ken of mere man. I trust that as an association you will consider this matter carefully. I do not believe that this scheme will ever be put into effect, since it is so obviously unfair and out of proportion.

The hospital is far more indebted to the pupil nurse than the nurse is to the hospital. Superintendents are too apt to speak in a somewhat grandiloquent manner of the enormous expense that the training of the nurse imposes on the hospital. One thing is certain—the expense isn't in the food. I should like to know what the hospital would do to-day without the pupil nurse. We are absolutely dependent on them for the proper care of the sick in our wards. A more hard worked, uncomplaining and useful band of women I defy you to find anywhere. Do not say to them as you are to take these matters into your own hands: "For whereas my father chastised you with whips, I will chastise you with scorpions." I have faith to believe that when you finally put into effect a new course of study for pupil nurses, it will be on the lines of the recent examination paper of your State Board of Examiners. It was with great pleasure that I read over the list of questions. Anything fairer, more judicious or better qualified to test the real knowledge of a nurse and her capacity to do honor to her guild and faithful work for the public it has never been my lot to see. As long as your course is conducted on the lines of those examination papers, the pupil nurse will have cause to thank you, as will the public and the doctors.

234 Clinton St.

ALL criticism worthy of the name is the ripe fruit of combined intellectual insight and long experience.—KEATS.

TWENTY-FIVE YEARS A VEGETARIAN—THE REGIMEN OF A NURSE.

By Miss M. Goodnow.

Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

A WOMAN, not given to outdoor pursuits but engaged in the usual occupations of her sex, in perfect health, and a vegetarian for the first quarter-century of her life, seems a sufficiently unusual spectacle to warrant comment. It may be her history proves that one may live a healthful life without extraordinary conditions or circumstances.

She came of rather long-lived and healthy ancestors, but with no remarkable record in this line. One grandmother died of cancer. Her father had malaria for years, and was subject to rheumatism. Her mother suffered from pelvic and nervous disorders. Her sister—the only other child in the family—was not especially robust.

The first sixteen years of her life were spent in a small town. Her mother's ill-health and the fact that the family did not keep a servant obliged her from her childhood to do considerable housework and a certain amount of sewing. She was fond of outdoor life, being considered something of a "tom-boy," but had comparatively little opportunity to indulge in it. The ordinary play of childhood, a few days or weeks in the country in summer, and walks to and from school or work, constituted her open-air exercise. She began school at the age of five, and went regularly, doing well in her classes. Upon moving to the city, she continued her schooling, finished high school, and had one year in college, standing third or fourth in the class, occasionally higher. She was industrious, but not over-ambitious, and was never considered precocious. She went out evenings during her school days far more than most of her acquaintances, though she never carried the social life to excess. After leaving school she spent two years in art work, one year in teaching, and three years in office work.

The fact of her being a vegetarian for so long a period was due simply to inclination. The other members of the family ate meat regularly, usually twice a day. She does not remember being told that she must or must not eat any given article. Tea or coffee were never, to her knowledge, forbidden her. No special articles of food were ever prepared for her; but she selected her diet from what was served to the rest of the family. She rejected meat because she "did not like the looks of it," and was past twenty-one before she could be induced to taste of either beef or mutton. She liked ham, however (no other form of pork), and the white meat of chicken; but these were unusual articles in her family and she probably ate them not more than eight or ten times a year—not often enough to be considered a part of her diet. Fish she would not touch. Oysters, clams, or sea-food of any sort she disliked. Eggs she did not care for, and rarely ate. She drank milk, but not regularly. Tea, coffee, and hot drinks of any sort were distasteful, likewise soda and charged waters, lemonade, or alcoholic drinks. Cold water has always been her only beverage. Beets, corn, cabbage, radishes, lettuce and Irish potatoes were about the only vegetables she ate. (Notice that they are the ones considered most difficult of digestion and least nourishing.) Beans, peas, spinach, sweet potatoes, onions, cucumbers, turnips, etc., she refused. Of cereals she ate sparingly. Graham or whole wheat bread she did not particularly care for. Nuts she liked, but rarely had. Butter and gravy she liked exceedingly, and sweets of any sort, also all kinds of fruit, jam, jelly, etc.

The bulk of her diet, therefore, consisted of white bread and butter, Irish potatoes and gravy, and sweets. She was allowed little candy, but was liberally supplied with cake, puddings (pie rarely), and fresh or cooked fruit. We leave it to the dietitians to say whether or not this was a well-balanced diet. It included three things, white bread, potatoes and desserts, which have been much denounced. It omitted three things, red meats, eggs and cereals, which have been declared essential.

While growing up, she had the common contagious diseases of childhood, measles, mumps, whooping-cough, scarlet fever and chicken-pox, but in no instance was she ill enough to be in bed. She never had toothache, and did not have a headache until she was twenty-nine. Menstruation began at eighteen, this late development seeming to be a family characteristic; the flow was scanty and a trifle irregular, but without pain or even discomfort. She led an active life, never denying herself anything she wished to do, for a physical reason. The only fatigue she remembers was muscular weariness from some unusual exertion. "Nerves" she did not know the meaning of. She was always of less than average height and weight, this also being a family trait, not in any way connected with diet. She was neither thin nor stout, always muscular; to this day she runs and climbs as readily as she did in her 'teens. A blood-count made a few years ago revealed an excess of red corpuscles. Her complexion has always been florid, and animal heat and vitality seem to be above par. She complains that an ordinary room temperature is uncomfortably warm, and says she has been cold but a few times in her life.

The past ten years—from twenty-five to thirty-five—have been less ideal in the matter of health, but it is a question whether they might not have been much worse had not the previous ones been so good.

Her work during this time has been that of nursing, mostly in hospitals, first as pupil nurse, then as executive, work which is generally thought to be more taxing to strength and nerves than ordinary occupations. During this period she has continued her vegetarian habits to a great extent, though she now likes and eats nearly every article served in American homes and institutions. She eats little meat, two or three times a week, perhaps, and retains her hunger for sweets.

At twenty-five, just after she had begun her training in the hospital, she had an attack of pneumonia, from which, however, she recovered in three weeks, with no ill after effects. Two severe shocks produced a condition of neurasthenia, which with its various manifestations, persisted for three or four years, but has gradually disappeared. At one time she was in bed for a week with no special symptoms except that she was "tired." Aside from this and the pneumonia, she has never been obliged to remain in bed even for a day. Attacks of sciatica and of tonsillitis have never been severe enough to keep her from active duty; as in childhood, disease seems to have but slight hold upon her, and her recuperative power appears to be unusual.

This history certainly presents some uncommon features. A perfectly healthy woman is a rarity in these days, particularly one who has lived the indoor life of a city resident. A woman who up to the age of twenty-five had not known what pain was, had rarely been tired and never nervous, is still more unusual. Vegetarianism from natural inclination, continued for a quarter of a century for no other reason and with no encouragement, is surely worthy of remark. Question—was the extraordinarily good health a cause or an effect of the diet?

THE QUESTION OF STATE LAW FOR THE REGISTRATION OF NURSES.*

A BILL IS NOW BEFORE THE PENNSYLVANIA STATE LEGISLATURE FOR THE REGISTRATION OF NURSES.

STATE law for the "Registration of Nurses" is not only unnecessary, but as the experiences of New York and New Jersey show, is positively harmful. The tendency of such law is to lead the average nurse tc assume too much, and not only lessen her usefulness as a nurse but jeopardize the life of the patient.

Instead of such law being, as is claimed by its advocates, a protection to the community, it becomes a positive menace to the public good. Physicians know that as a general rule hospital trained nurses claim too much. They are often overbearing and dictatorial and require too much attention and waiting upon. Now to pass laws to confer special marks of distinction upon them is to accentuate these qualities and render their presence in the sick room a positive danger.

The nurses in asking for these laws are working against their own best interests, for if the laws are enacted it will only be a little while before doctors will refuse to employ such nurses and will turn to those of less pretensions but of greater usefulness.

The spirit of trade and the feverish desire to maintain prices under cover of "protecting the public" cannot be concealed in this wild scramble for State law and recognition.

Twenty-five to thirty dollars per week and higher is the claim. Down with the poor, down with the doctors and down with the patient—anything to maintain and advance prices. And mark, that nursing is the best paid occupation now open to women.

Instead of being satisfied with the best there is, we see unrest, jealousy and a selfish zeal on the part of a few nurses for personal recognition and monopoly. Let these nurses offer some practical solution of the problem of furnishing trained nurses for the great body of the people, who cannot afford their present charges, before they ask for the creation of a monopoly.

The movement savors of trusts and trade.

The Northampton County Medical Society at its annual meeting in Easton, Pa., January 18th, adopted a resolution disapproving of the movement to make nursing a mere trade, and the fixing of $25 as a minimum charge per week, thus depriving poor people of nursing assistance.

Arguments may be brought forward to justify trades unions in the commercial world, but the most case-hardened and reckless agitator and striker would shrink from trading in the blood and sufferings of humanity.

Dr. George G. Groff, Professor of Anatomy and Physiology in Bucknell University, in an address on the occasion of the Commencement Exercises of the Philadelphia School for Nurses, said:

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*This circular is discussed in the editorial columns.—ED.

"As an illustration of the decided medical trend which the studies for nurses have taken in recent years, we copy the questions used in a Western school for nurses in 1904.

"What are the following operations: Colpoperineoplasty, cholecystectomy, myomectomy, colpocystotomy?

"What kind of nerves are the fifth and seventh cranial nerves?

"Name the bones of the head and face.

"Name five pyogenic germs that cause disease.

"What is immunity?

"Does the presence of albumen necessarily indicate disease of the kidneys?

"How do you test for free hydrochloric acid in the stomach contents?

"Write one hundred words on general urinalysis.

"Give a thirty-line treatise on digestion."

Our suggestion is that, while some of these questions might be given to first-year medical men, they have no bearing upon a nurse's real duties. They are a poor set of examination questions for any school of nurses. Better teach nurses something about nursing.

The New York State Board of Regents, acting under the so-called law for registering nurses, in January, 1906, used the following questions:

"State the probable cause of convulsions in the new-born, and give treatment.

"Describe cholera infantum and give treatment.

"Give the treatment of croup.

"Give the causes, symptoms and treatment of rickets.

"What does hæmorrhage before labor usually indicate? Give treatment.

"Describe the process by which bacteria multiply.

"Name three diseases in which bacteria are thrown off by the skin."

They, too, are tinctured with the idea that the nurse is a doctor. What is the meaning of all this "treatment" by nurses? Have they supplanted physicians in New York?

THE EVOLUTION OF THE NURSE.

"To advance the higher evolution of the trained nurse, the domination of the doctor and the man must cease when he leaves the sick room."—Mrs. E. G. Fenwick, in *Outlook,* January 6, 1906.

Dr. Groff continues:

This, then, is the idea: to place helpless patients under the care of two different individuals. Under the doctor while he is present, and under the nurse all the rest of the time. The doctor is to prescribe the medical treatment, but the nurse is to give the medicine if she thinks proper.

At a trial at Tom's River, N. J., trained nurses testified in court under oath that they threw away the medicine prescribed by the doctor and administered their own. These nurses had been recognized by a so-called nurses' law. They had "R.N." after their names. They were following the dictum that "the domination of the doctor and the man must cease when he leaves the sick room." It is claimed that being recognized by State law the same as doctors, they had the right to decide upon the advisability of withholding or administering the doctors' medicine or substituting their own.

And this is called evolution! Nay, it is retrogression, a step in the direction of the dark ages.

Would it not be well for the medical profession of the State to ask our legislators to think a long while before striking a blow at the fireside; to consider whether it is wise to give special distinction to a few nurses in the interest of monopoly; to legislate against over 95 per cent. of the homes of the State which cannot afford $25 per week when disease and death threaten the loved ones?

PENNSYLVANIA STATE COMMITTEE ON NURSING.
January 30, 1907.

HOSPITALS IN THE LAND OF DIAMONDS AND GOLD.

Dr. Nicholas Senn contributes to the *Journal of the American Medical Association* (September, 1906) a graphic sketch of medical matters in Kimberley and Johannesburg, South Africa, from which we make the following brief excerpts:

CARNARVON HOSPITAL, KIMBERLEY.

Kimberley is the most famous diamond city of the world, and its population of about 75,000 depends largely on the brilliant gems taken from its five mines. It has only one general hospital, named after a former governor. This was built soon after the discovery of the mines, twenty-five years ago, and has been enlarged since that time to meet the constantly increasing demands. Like all South African hospitals, it is constructed on the cottage plan, the building material of the one-story pavilions being brick and the roof corrugated iron. It can accommodate 200 patients. The two large wards for the blacks are detached from the remaining buildings, as well as the new hospital for white children. Patients who can afford to pay are charged from 25 cents to $7.50 a day, according to accommodations. A large number of plainly furnished, comfortable rooms are the main source of income. The only government support the hospital receives is the hospital head tax of 25 cents a week imposed on all adult male natives. The large grounds, the broad verandas around each pavilion and the grate fires in the wards impart to the hospital an aspect of home comfort. At the time of my visit a biting cold wave from the South swept the treeless plains unmercifully, and the open grate fires looked particularly attractive.

Two resident surgeons live on the premises in separate buildings and devote their whole time and attention to the care of the inmates. The senior resident surgeon is permitted to do consulting work outside of the hospital, but the junior's income is limited exclusively to his small salary. Nine English Sisters and 50 nurses and probationers have charge of the nursing. The training school for nurses in connection with the hospital is in a flourishing condition. A three years' course is compulsory. The teaching is done by the Sisters, and regular lectures are given by the medical staff. The nurses' home is a new separate modern building. Cleanliness and good order prevailed throughout the institution, and the blacks seemed to be well cared for. All the blacks who die here are subjected to post mortem examination, and the permission of the natives is never asked. In the children's ward I saw a child on whom tracheotomy had recently been performed for diphtheritic laryngitis, and the little patient was well on the way to recovery. Intubation is not regarded with favor in this part of Africa, and when surgery has to be resorted to in cases of laryngeal stenosis, tracheotomy is the operation of choice. A laparotomy for pelvic inflammation was in progress in the plain, large, well-lighted operating room at the time of our visit. Operating gowns, masks and gloves are not often, if ever, seen in the operating rooms of the South African hospitals. The surgeons roll their sleeves up to the elbows, cleanse and disinfect their hands, put on aprons and then go to work. Several cases of injury from dynamite explosions and a number of fractures made up the bulk of the surgical material.

COMPOUND HOSPITALS.

By a compound is meant the enclosure of a mine in which the miners, usually Kaffirs, are confined as long as they are in the service of the company, which on an average is six months. No one can enter these compounds without special permission, and the miners are not permitted to leave the premises. Each of the five diamond mines employs 2,000 to 2,500 blacks. The large square in which they live is surrounded by a wall. The sleeping places, butcher shop, stores and hospital are built all around against the wall, and in the large open space the blacks cook, eat, wash, smoke and play.

I saw here a group of blacks who were smoking hemp, passing a large pipe from one to the other. Each of them took a large draught, retained the smoke for some time in the distended mouth, and then allowed it slowly to escape. At least two who were enjoying this vice, showed plain manifestations of intoxication.

The prevailing diseases among the miners are bronchitis, pneumonia and scurvy. Scurvy is very common and, as the physician of one of the compounds assured me, is due to the lack of vegetable food, which is very expensive here, and which the blacks refuse to buy in sufficient quantity on account of the high price, as they are anxious to save all the money they can to enable them to return to their homes as soon as possible. The most common injuries are burns and wounds from dynamite explosions and fractures. Among the interesting cases I saw here was a negro, the subject of multiple large keloids and an albino Kaffir. The man was about 30 years of age, with fair complexion, red, curly hair and the characteristic eyes of the albino. I was informed that the average mortality from pneumonia in these compound hospitals is not less than 25 per cent. I saw and examined a number of cases during the acute stage of the disease, and in each of them the viscid rust-colored sputum was present.

It is not so very easy for the blacks to get into one of these compounds, as they have to undergo a thorough physical examination by a physician, but there is more ceremony connected with their getting out. Stealing of diamonds by the miners is an old trick, and has cost the companies millions of dollars. All kinds of devices have been invented and practiced by the blacks to enrich themselves by stealing now and then a diamond which they find. To encourage honesty, the company pays each miner 10 per cent. of the value of the stones he finds, provided he delivers them at once to the manager. Notwithstanding this inducement, thefts are by no means rare even now, with all possible precautions to guard against them. Some of the compounds are roofed in with wire netting to avoid all possibility of communication between the natives and the outsiders. The shrewd blacks will hide away diamonds in all avenues of their bodies whence they can be removed after they have left the compound. Against this method of pilfering the company now has instituted and enforces a measure well calculated to do away with this practice. When a black miner signifies his intention to leave the compound, he is put in a separate place and under guard, with others who are about to leave, and is subjected to repeated examinations for one week. Both of his hands are confined in stout leather mittens fastened with a lock at the wrists. This muffing of both hands prevents the temporary prisoner from grasping and disposing of any diamonds hidden in any part of his body, or the body of any of his companions. Each man is given a brisk dose of castor oil, the discharges are examined, and if at the end of a week no diamonds are found, he is given his liberty. In one compound I counted twenty blacks, lying side by side in a room, who were under observation prior to their departure. The physical condition of the men who leave the mines, after working on an average for six months, is much better than at the time of their entrance, as I had abundant opportunity to observe.

JOHANNESBURG HOSPITAL.

Johannesburg Hospital is the only general hospital in the city. A small hospital for the employes of the Rhodesia Railroad I did not visit. The Johannesburg Hospital is eighteen years old, has undergone many important changes since that time, and has been enlarged with the growing needs for accommodations for the increasing number of ill and injured. The hospital occupies a commanding position on one of the many hills of the city, and is surrounded by large grounds made attractive by paths, trees, shrubs and flowers. The hospital at present has accommodations for 380 patients. A large number of private rooms and a few small private wards are a source of material revenue with which to defray the heavy expenses of the institution. The main building and wings are two stories high and constructed of brick. The blacks are housed in two one-story cottages in the rear. In the ward for black women I counted only 13 patients. The number of black male patients in another ward was much larger.

I was much pleased to find a free bed in one of the general wards for Europeans in memory of the late President Kruger, established and to be maintained by friends of the deceased. The report of the hospital for the last year makes the following allusion to this: "As a memorial to the late President Kruger, about $1,000 was collected by several lady residents of the town and handed over to the board for the purpose of maintaining a bed in the free male wards. The board's thanks having been conveyed to the organizers, the bed was formally opened by General Beyers in the presence of the hospital board and staff, December 21, 1904, and a brass plate giving the designation of the bed placed at its head."

Mr. G. E. Murray, F.R.C.S., does most of the operating and, so far as I could learn, is the most prominent surgeon in the city. We found him in the capacious operating room, which is well lighted and fairly well equipped, engaged in an operation for femoral hernia. His principal assistant was one of the sisters of the hospital, who has charge of the operating room. Mr. Murray used iodized catgut exclusively for buried sutures and ligatures, and is well pleased with the results, as since he has adopted this material, stitch abscesses in aseptic wounds are almost unknown. A few cases of cancer in the black have been observed in this hospital, but no cases of appendicitis.

It is a little strange, that in this city with more than 100 doctors, the hospital has not opened its doors so freely as it should to physicians who do not belong to the staff. A movement is now on foot to remedy this lack of hospital space by the building of another hospital for the outsiders, and this is certainly an effort in the right direction. The nursing is in care of 25 Anglican Sisters and 80 pupil nurses. A new nurses' home is on the way to completion at an expense of more than $100,000. The nurses have to undergo a course of instruction and training extending over three years before they can come up for the final examination. Graduate nurses in private practice are paid $25 a week. This liberal pay of private nurses is a great incentive for young women to enter the training school. The annual report of the hospital for 1905 shows that the whole number of indoor and outdoor patients, paying and free, was 12,398, of which 7,919 were outdoor patients. Of the 4,459 indoor patients, 3,256 were whites and 1,203 colored, and of these, 1,915 paid full hospital fees, 74 partial fees and 2,470 were treated free of charge. The average percentage of white-paying patients was 44, and of colored 44, certainly a good showing for the latter.

The government grant in aid for the year amounted to $75,000.

THE NURSE AS A HUMANITARIAN.

"Is the nurse a humanitarian," asks Belle E. Langley, writing in the *Nurses' Journal of the Pacific Coast*, "and if not, why not"? Miss Langley alludes to the many opportunities that nurses enjoy for exercising their humane nature, but admits that many of our hospitals fail to inculcate "the true humane spirit" in their nurses. In explanation she says:

"The seeming lack of sympathy on the part of the nurse may also in many instances be traced to overwork while in the training school. We all know that her strength is taxed many times far beyond what she can properly endure, and little time therefore is afforded her for that reflection and the mingling of her thoughts with her work, by which alone her nobler and better self.. her sympathy and love can be unfolded and developed. She is thus taught that her duty is not to do the greatest amount of good by her work, but that it consists in receiving the greatest amount of coin for such work as she may be called upon to do. What may we expect from such training? Can we expect any other than a nurse cold, indifferent, and mercenary?

"Shall the public be forced to become accustomed to the feeling that the trained nurse cares only for the body, with the sole view of how much coin she will be able to collect from her patient? God forbid!

"The hospitals are also at fault in the standards that they have set for the nurses that apply for admission to their training schools. The physical and mental efficiency of the applicants are too often the only qualifications considered, while the nurses' moral and spiritual development is entirely ignored.

"In the transition from the original nurse, or Sister of Charity, much of the spiritual and humane of the profession has been lost. I believe that the nurse of to-day is what she is as the result of her training; for surely the woman of the present period has as strong spirituality and as humane a disposition as in former times.

"Much of the public criticism is due in a great measure to ignorance. But how are we to escape just and merited criticism? The answer is plain: We can only remedy the matter by removing the cause; and if what I have pointed out are the causes, or even a small portion of the causes, then let us remove these causes.

"The nurse should have some natural acquirements. She should have good judgment, adaptability, tact, and a love for her work, with a humane and generous interest in the general welfare of all mankind, and her training should be such as would develop these qualities. She should be, as was said of Jacob Riis, like the real doctor, 'A ministering angel than whose calling and work there is none higher on earth. They preach the gospel quite as effectually as any minister in his pulpit, and in a way that comes home to the human heart, as his sermons too rarely do.'"

TECHNICALITIES.

ITEMS of value to nurses in their work will be welcome to this column.

TO SAVE STRENGTH.—Nervous women should not talk too much. Excessive and enthusiastic talking wastes vitality.—*Medical Summary.*

AN IMPROVISED FILTER.—A flake of clean absorbent cotton placed in a funnel makes an excellent filter.—*Nurses' Journal of the Pacific Coast.*

TO CURE A FEVER BLISTER.—A fever blister will disappear almost like magic if touched with a drop of sweet spirits of nitre.—*Medical Summary.*

DANGER FROM IODOFORM.—The use of any considerable quantity of iodoformized gauze in the vagina involves the risk of a severe dermatitis of the vulva.—*Amer. Jour. Surgery.*

A REFRESHING BEVERAGE.—Pineapple juice, extracted from the fresh ripe fruit, and sweetened slightly, is grateful to patients convalescing from typhoid fever.—*Nurses' Journal of the Pacific Coast.*

TO RELIEVE A PARCHED MOUTH.—A little glycerin and water held in the mouth during fevers, when the mouth is very dry and hot, is of great assistance and gives quick relief.—*Medical Summary.*

TO SEPARATE THE FAT FROM BROTH.—Strips of butcher's paper drawn across the top of hot broth will remove all grease, and thus save the time required to cool it enough to skim.—*Nurses Journal of the Pacific Coast.*

RULES TO BE OBSERVED IN THE ADMINISTRATION OF MEDICINES.—(1) Always read the directions on the label on the bottle. (2) Shake the bottle. (3) In pouring out the prescribed dose pour on the side away from the label. Nothing looks more untidy or indicative of a careless nurse than a label spotted and smeared with the drippings of doses already administered. In the administration of medicines, as in all else, attention to detail is the essence of good nursing.—*British Journal of Nursing.*

BANDAGES OF THE HAND.—In the treatment of hand and finger infections, it is very important to release from bandaging as much and as many of the fingers as possible, and as soon as possible.

The habit of bandaging up immovably all the fingers, in the treatment of a lesion of some of them, saves the surgeon time, but, except in short cases, it often cripples the hand by stiffening the fingers. —*Amer. Jour. Surgery.*

Hygienic Garments for Women.—A woman need not wear a Mother Hubbard wrapper in order to be hygienic, nor need she wear tight clothing in order to look stylish, but there are comfortably fitting waists to which her skirts may be fastened in front and behind and which cause the weight of her garments to come upon her shoulders and hip bones. Some authors attribute gastroptosis or splanchnoptosis to high heeled shoes, as well as to tight lacing; others go so far as to say that until a girl is fifteen years old no dress should be worn which does not hang entirely from the shoulders.—Dr. Kate Campbell Mead, in *N. Y. Med. Jour.*

A Simple Emergency Dressing for Wounds on the Field of Battle.—In the Russo-Japanese war a very simple method of dressing wounds was used by the Russian army, according to Walter von Ettingen .(*Archives médicales belges,* No. 5; *La Tribune médicale,* September 1, 1906). Before each battle small compresses of gauze (10 cm. by 10 cm.) were enveloped in parchment paper, sterilized in large numbers, and given to the troops. When a soldier was wounded and brought to the lazaret, an attendant, without waiting to wash the wound or shave the skin, applied a piece of gauze over an area as large as the palm of the hand and poured on the following solution of mastic, so that the gauze immediately adhered, which was then covered with a roller bandage:

℞	Mastichis, ...	20.0 grammes;
	Chloroformi, ...	50.0 grammes;
	Ol. lini, ...	20 drops.
M.		

This can also be made extemporaneously by taking one spoonful of mastic, three spoonfuls of chloroform, and twenty drops of linseed oil. In many cases splints were also applied, so that the man could be conveyed to the hospital. This simple treatment gave the best results. Besides its efficacy and simplicity, it has other advantages; it can be applied by orderlies or others without danger of contaminating the wound; the application of the mastic solution by a piece of cotton or a brush avoids the contact of the fingers. and the compresses of wadding or gauze are rolled in such a way that they need only be touched on one side. This solution can also be employed to make strips of muslin or cloth adhere to the skin in applying extension to fracture of the leg, the clavicle, the radius, or the ribs. The author believes that this solution may have its uses in peace as well as in war.—*New York Medical Journal.*

To Check Consumption.—Dr. S. Jay Crumbine, Topeka, secretary of the State Board of Health, has prepared for general distribution, a pamphlet on the subject of tuberculosis, whose object is to stop the spread of the disease, and warn the people of the dangers arising from it. The pamphlet contains these rules to be followed by state and county officers and employés in the state:

All persons in state and county employ are positively forbidden to spit on the floors.

Rooms, hallways, corridors and lavatories shall be freely aired and effectually cleaned at least once a day, and not during working hours.

Spittoons shall receive a daily cleansing with very hot water, and when placed ready for use must contain a small quantity of water.

Dust must be removed as completely as possible by means of dampened cloths or mops. It should never be needlessly stirred up by a broom or duster, as this practice only spreads the dust and germs.

Floors of tiling, brick or stone must be frequently scoured with soap and water.

The senior clerks in charge of workrooms will take measures to secure during working hours the admission of as much fresh air and sunshine as the conditions will permit.

The use of individual drinking glasses is recommended.

Persons in state employ who suffer from pulmonary tuberculosis should be separated, when possible, from others while at work.

Home advice for consumptives:

Sleep alone.

Use no hangings, upholstered furniture or useless floor coverings in your sleeping room.

Whitewashed or painted walls are preferable to those covered with wall paper.

Expose the bedroom freely to the outside air when not occupied, and sleep with the windows open. Spend as much time as possible in the open air, and use the bedroom only at night.

Do not be afraid of cold weather as long as the body is protected, and be especially careful to keep the feet dry.

Keep the body warmly clad and guard against sudden changes in the weather.

Take plenty of nourishing food. Consumptives often need more nutriment than they are inclined to take. Milk, eggs and fatty foods are especially valuable, when they can be assimilated.

There is no known medicine that can cure consumption. Medicines for the relief of cough and other symptoms of the disease should be taken only on the advice of a physician.—*Journal of the American Medical Association.*

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THE REARING OF CHILDREN.*

By Dr. George Carpenter, M.D., F.R.C.P.,
Physician to London North East Hospital for Children.

The rearing of children. A sentence of four words and yet how much of importance to the welfare of the young lies hidden in this simple announcement. How complex are the problems involved, how much there is to be said, how much to be learned and how short a space of time has been allotted to me to even briefly review all that it is necessary to tell you.

For children to make a good start in life their infancy must be spared those dyspeptic disorders which are so frequent in nurslings, which, even if they do not destroy them, nevertheless undermine their constitutions, lower their vitality and seriously handicap them in the battle of life. But not only is it necessary that an infant should be suitably fed, it should be suitably born. It should commence with a strong constitution. Unfortunately a child cannot select its own parents, it has to put up with them. The influences on the offspring of parental alcoholism, of consumption, of a neurotic inheritance and of inherited deformities are very potent. Whether persons suffering from such infirmities should be allowed to marry is a difficult problem. Certain it is that the union of such people produces a debilitated offspring with unstable nervous system. All these matters are of importance, because if we are to rear healthy children we must begin with a sound material on which to erect our superstructure.

And a word here will not be out of place in regard to the safeguarding of the maternal health during pregnancy. It is recognized that certain disorders are transmitted to the fœtus in utero, that toxins circulating in the maternal blood vessels filter to the fœtal tissues and that in consequence structural alterations are apt to arise in the organs of the child as yet unborn. Nor is the state of the mother's health during her own childhood unimportant. A rickety infancy is liable to produce rickety deformities of the pelvis which, narrowing the outlet, renders labor not only difficult to the mother but dangerous to the child. Thus arises cerebral hemorrhage in the young, which produces paralytic and mental deformities.

In this lecture I shall only briefly touch upon the subject of infant feeding, and say that to popularize breast feeding, to inquire into and to remedy the causes which prevent or hinder this maternal function, and provide nourishment or pecuniary aid where necessary to nursing mothers, are the very best and most direct ways to ensure a healthy and thriving infancy, and to supply a suitable foundation for the proper carrying out of all those various operations which are comprised under the heading, "The Rearing of Children." If you value your infant's health and happiness, and both in the first year chiefly reside in the stomach, avoid proprietary foods, they are the greatest curse to the infantile population of this country.

Assuming then that the infant starts with a good heredity, that it has passed without a hitch the first twelve months of its life, how then should it be fed, how clothed and what general and special measures should be adopted to continue the good work thus begun and rear a healthy little animal sound in mind, wind and limb.

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*Lecture delivered at London Institute of Hygiene on February 20.

During the second year cow's milk must be the staple article of food. And here I must say a word or two concerning milk. Those of us who are accustomed to inspect cowsheds and all the appliances and labor utilized for the production of the commercial article which goes by the name of milk are well aware of the present unsatisfactory state of the milk industry. In place of a clean milk we are supplied with a dirt contaminated fluid overcharged with microbes. The dilution of the liquid, thereby reducing the nutritive value of its constituents, is a trivial offence compared with that of dirt contamination. The legislature takes cognizance of sins of commission in the shape of adulteration with water, while the sins of omission in the form of allowing children's food to become charged with bacterial poisons is not punishable. Unfortunately the public health authorities are not provided with sufficient powers to ensure cleanliness and to control the sins of omission.

Nevertheless, this want of cleanliness is a very serious matter indeed for our child population. Howls of indignation rent the air when the "Jungle" revealed to the world the horrors of an American packing house, but it is difficult to arouse the public in regard to an equally scandalous condition of affairs with respect to our own dairy farming operations and to obtain legislation for the better regulation and control of the milk trade. Untold numbers of infant lives are sacrificed to the demon dirt, and the health and physique of innumerable others are seriously undermined.

And there is yet another and more important question, and that is as regards the supply to the public of tuberculous milk. Cows are not periodically tested with tuberculin, as they should be, to ensure the absence of the tubercle bacillus. That the milk which the milkman daily leaves at our doors is often laden with tubercle germs is undoubted. Quite a large number of the milk cows in this country are tuberculous, and tuberculous milk can and does infect the infant with tuberculosis. When selecting milk for children, it should be clear unadulterated and tubercle free. The average dairy farms throughout the country are unwholesome. Our medical officers of health and sanitary inspectors hold the keys to these sacred precincts. You may be allowed by them to peep inside and if you do so you will be quickly disenchanted—it will be clear to you how unclean the animals are and how filthy the milkmen are in their milking and subsequent operations.

A child at the beginning of the second year should be gradually accustomed to digesting undiluted cow's milk. At first it may be mixed with a little boiled water. During this period the motions should be watched, and if the stools contain undigested curds, then further dilution should be practiced. With a little care and patience the milk can soon be taken in its natural state. The daily quantity of milk which should be given to a child as a fluid, or in farinaceous puddings should be two pints. In addition to a cup of milk, it should be given bread and butter for its breakfast, and for bread there is nothing to equal that made from stone ground flour.

For lunch another cup of milk and a stale sponge cake. For its dinner a child requires a somewhat more elaborate meal. The diet may be varied, with one day beef tea, another gravy from the joint, and another the yolk of a lightly boiled egg. With the gravy, the beef tea or the egg mix a little floury potato, or the tops of cauliflower or brocoli thoroughly cooked, or spinach or bread crumbs. Follow this course by a little custard or farinaceous pudding.

A child's diet should be varied, and it is well to ring the changes as much as possible so as to avoid sameness in the meals. Maized corn makes an excellent and nourishing porridge, and the wholesomeness of oatmeal flour must not be forgotten. Some children, however, cannot digest oatmeal, and with them it should not be pushed.

Natural oatmeal, which is far better than prepared oat foods, is very nutritious, being richer in phosphates and proteids than either wheat or barley. There is no objection to fruit and fruit juices at this early age with milk puddings, but the fruit must be well cooked and free from fiber and the juice destitute of skins and pips. Children are often thirsty, and when so should be given water to drink, not milk; this should be reserved for their meals. Water should be filtered, and if a filter is not available the water should be boiled. Although children may be allowed to drink between meals they should never be fed at irregular hours. Meals should be served punctually at the appointed hours, and food is to be partaken of only at that time. Children must not be allowed to be capricious in the matter of food. Teeth are often a source of irritation, and it does a child no harm to gnaw a chicken or chop bone, it hardens the gums and assists the teeth to pierce them. At the age of eighteen months an infant should be cutting the first temporary molar teeth and further additions may be made to the menu.

Thus, for dinner it may have pea, lentil or barley soups, with potatoes and bread. Or a dessertspoonful, increasing to a tablespoonful, of pounded chicken or turkey or freshly killed game. And this diet should be varied by occasional fish dinners of some white fish, well pounded and free from bones. When the child is able to digest meat well then the pounding may be omitted and the meat cut up very fine indeed. Milk given at this age may be thickened with a little cocoa. It is very important to superintend children's meals. Some children are habitual food bolters, while others contract the habit of dawdling. Nor should children be allowed to become fanciful, they should be made to eat what is placed before them without a murmur. As to an assertion not infrequently made that a child cannot take milk, such a statement is readily disposed of by a short seclusion in hospital or in a private nursing home. Milk is the staple diet for the young, and there is nothing to take its place. Meat should only be regarded as supplemental to milk and should only be administered in small quantities.

At the age of two years all the teeth should have been cut and the child should be a sturdy specimen of humanity. The dietary may now be amplified, both as regards quality and quantity, and also more varied. Most wholesome foods, vegetables and preserves, may be eaten, as well as plain cakes —Madeira and seed cake—but currant and sultana cakes and plum puddings should never be given.

Simple sweets may be allowed in small quantities, but the quantity should be limited.

In order to rear children properly not only is good food essential, but fresh air and plenty of it. A child will not be healthy unless ample provision be made in this respect. The nursery should be at the top of the house, but if it be possible there should be a night and day nursery. If children are to thrive there should be a space of 8 feet by 8 feet by 8 feet for each child. This cubic area allows a complete change of air thrice hourly, with an absence of draught, but it is better still to have a space for each child of 10 feet by 10 feet by 10 feet, which gives twice that amount of fresh air per hour.

For ventilation, combined with warmth there is nothing to equal a slow combustion grate. Gas stoves in the nursery are very injurious to health; nor are windows to be hermetically sealed for fear of draughts. Windows should be large and well cleaned so as to admit plenty of sunlight, for sunlight is inimical to the propagation of disease germs. Windows are intended to open, and should be opened at the top for two or three inches by day and by night.

For floor covering a smooth linoleum is cleanly and durable. Carpets are never to be used; two or three woolen rugs which can be taken up and shaken out of doors are the only floor coverings that are required. The furniture should be free from angles and projections, and should be placed at the sides of the room, leaving the center of the floor free for games. For the night nursery a cot with slip down the sides should be used, with a woven wire mattress, a horse hair mattress, pillow, mackintosh, sheets and blankets. Woolen rugs as an additional covering in cold weather are better than down quilts, which keep in the perspiration and make the bedding damp. Plenty of air should circulate around the cot. As in the day nursery so in the night nursery there should be an open fireplace, and by efficient means of ventilation a temperature of from 60° F. to 65° F. should be maintained by day, and a temperature of not less than 55° F. by night.

The walls should either be distempered or covered with a varnished sanitary paper. Ceilings should be treated in a similar way. The angles and corners of rooms are dust and dirt traps, and should be avoided by substituting rounded junctions for those at present usually in vogue.

Skirting boards are most unhealthy; they harbor dust and dirt and are a happy hunting ground for vermin and rodents. So, too, are picture rails; these also should be done away with, for they collect dust.

For lighting a nursery there is no illuminant equal to the electric light. It is both cleanly and wholesome. Gas is not to be advised; it gives off carbonic acid gas, sulfur dioxid and sometimes carbon monoxid, and one burner will do as much harm in contaminating the atmosphere as two adult persons.

If it be possible to so arrange it the sanitary appliances should be on the same floor as the nurseries, situated from them as far as convenient. The watercloset and bathroom should never adjoin the nursery; there should be either a room or passage between the sanitary apartments and the nurseries. The sanitary fittings should be of a high order, and examinations of these should be made periodically and their condition reported on. Never forget that sanitary appliances may be perfect, but that their users may by their dirty habits render them unhealthy to the occupants. Closet pans should be kept scrupulously clean. Closets are too high and too large for small children. A relief seat should be used to obviate the latter drawback, and for the former a movable step should be provided for placing in front of the closet. If children are seated with their legs dangling constipation is apt to ensue. Another important way to prevent constipation is to see that each child has a daily motion of its bowels after breakfast.

The bathroom should be light and airy. The bath should be of enamelled iron or of stoneware. The fittings should be efficiently trapped. The bath is almost always placed at the side of the room to prevent loss of space, but the ideal situation is in the center of the apartment, where it can be approached from all sides.

It is disadvantageous to have the bathroom and closet combined. The floor of the bathroom should be covered with linoleum without joints. There should be a cork mat for the children to step on. The walls are best tiled, and there should be plenty of air and light in the room.

Sleep is the most important feature of child life. Training to sleep should commence almost at birth, and the infant should be placed in its cot immediately after feeding, and the cot should not be rocked. It must not sleep at the breast or with the teat in its mouth, and on no account must children be allowed to indulge in thumb sucking or sucking what is known as comforters. The long sleep of infants should take place between 11 P.M and 5 A.M. At the fifth month this time may be extended from 7 P.M. to 7 A.M. Regularity of sleep for the young is as important as regularity of meals. A child should be accustomed to a daily rest for an hour before the mid-day meal. He can to the benefit of his general health be trained to take his siesta until he is five or six years old. A child should be accustomed to sleep alternately on either side and on the back.

To be healthy and to enjoy a vigorous childhood exercise is all important, and be the weather wet or fine the daily walk must not be omitted. There are some children who are so lacking in vitality that a breath of cold air will give them a cold in the head or bronchitis, but to a healthy child a cold snap acts as a tonic.

Children should be encouraged to play

games which will develop their chests, improve their winds and make their muscles and sinews hard and elastic. Skipping, running, jumping, pony and donkey riding, or other amusements which call for increased muscular exertion, greater rapidity of breathing, more rapid action of the heart and more aeration of the blood than is required for walking are to be encouraged. Even crying has its uses and should not always be discouraged, for this too exercises the chest and abdominal muscles, fills the lungs full of air, sends the blood coursing through the blood vessels to their furthest ramifications, when the oxygen laden blood corpuscles part with their air robbed burdens to the growing tissues. Children should be prevented from adopting faulty positions at their play, at their exercises or in their beds. They should also be taught to be ambidextrous, to use both hands with equal facility.

The object of clothing is to protect the individual from the inclemency of the weather and to keep the skin at an equable temperature, so that the internal organs be not subjected to undue stress by reason of the flooding of the tissues in response to the cutaneous depletion of the blood vessels by atmospheric changes.

Clothing should not constrict the limbs and so impede the flow of the blood to and from the extremities, nor should it be so tight that it interferes with free movements.

The chest and abdomen also require free play for respiration and circulation. The only parts of the body that should be habituated to exposure are the head, face and hands. *Bare necks, bare arms, bare knees and legs and bare feet even in the summer are undesirable.*

All young children's clothing should be loose and free. Children should be clad according to the state of the weather and not according to the time of the year. Fashions should not be allowed to dictate the choice of clothing; health should be the sole consideration. It should be the aim of parents to select the happy medium, neither to dress them, as some are dressed, with multitudinous wraps, a superabundance of underclothing, making of them perambulating and perspiring clothes pegs. Nor, on the other hand, to try to harden their offspring by sending them out in cold weather with blue fingers, cyanosed ears and a generally pinched and woe-begone expression that would wring tears from an Oliver Twist.

Bathing. For the first few months of life the temperature of the bath should be 98° F. The bath should be of short duration and the body should be quickly dried. At the age of six months the temperature of the bath should be reduced to 95° F., and by the end of the first year of life to 90° F. Robust children in finishing their tubs should be sponged with water at 65° F., or the water should be poured over them from a jug as they stand in their tubs. There are some children who cannot tolerate cold sponging, or sometimes even ordinary bathing. For such as these the tub or the douche must be abandoned and a piecemeal washing substituted.

The tub bath is best given in the evening and the douche in the morning. While the bath only need be a daily occurrence, the teeth must be cleansed with a soft toothbrush night and morning, and the teeth should be inspected by a dentist at least every six months.

The selection of a suitable nurse is a very important step. The mother ought to be the head of her nursery, that is her duty; and the care and training of young children should not be left to hirelings, as is now the fashion among women of the upper classes, because these mothers find it more entertaining to devote their time to their social engagements rather than to the upbringing of their offspring.

While the infant is yet in the womb heredity of the ages, heredity of the parents and also the maternal health are playing their allotted parts on the fœtal tissues. During the first year of life the brain grows rapidly. There is a vast difference mentally between the infant in arms and the child at two years of age—one is a little animal endowed with certain instinctive movements, such as sucking and grasping, the other is an intelligent being with a distinct personality. During this period of growth, the various nerve centers have been opened up and improved by the external physical influences which have been brought to bear upon them by the special sense organs. The influence also of a strong personality by the mother and the nurse has had no small share in this transformation. This has also been brought about partly by imitation and partly by the domination of the superior intellect which has controlled these operations.

If the heredity be good and the early training be also good then the child is tractable, but if the converse has been the case he is difficult to manage. It is at this stage of his existence that the personality of the mother or nurse becomes a powerful factor in his mental training. The child is an imitative animal, and if the personality of the person who generally has the charge of him be a strong one he is taught habits of self-control to keep in subjection his impulses and his desires which will tend either to eradicate or keep in abeyance or accentuate his good and bad hereditary traits as the case may be.

That heredity is a powerful factor in the formation of character there can be no question, but that early training is also a potent influence in the same direction cannot be gainsaid. There are two classes of parents that are not fit to rear children, those that devote their lives to cards and sports, and a round of social festivities to the exclusion of their parental duties, and those that are foolish and over-indulgent, and will not permit their children to live natural lives, either physically or mentally. Usually the latter are themselves neurotic, and they come of a neurotic stock. If I were asked to advise as to the surest way to bring out the worst points of a neurotic child I should select for it doting parents waiting on it hand and foot. The child readily recognizes the position, it realizes that it is the hub of the household, that its wish is law and that when it speaks "let no dog bark."

Modern civilization has much to answer for in the production of the neurotic child, and neurotic children are ever on the increase. In a state of nature the weakling, the neurotic and the degenerate are unknown, but in civilized communities they are fostered and cared for, they grow up, marry and bring into being children less able than they are to battle with the world and cursed with still more unstable nervous systems. Possibly, these in turn may generate even worse types, epileptics, criminals and other degenerates. For normal healthy development of the higher nerve centers, there must be quiet and absence of all excitement and undue stimulation. Parents and nurses must realize that the child, the nervous child particularly, must not be unduly excited. He must not be encouraged when in an excitable condition to indulge in all kinds of monkey tricks, accompanied by shrieks of delight, to thoroughly lose his reason for the time being to the great amusement and pleasure of his admiring elders, who do not realize the danger to the child of these nervous storms. Such nerve outbursts always end in depression. A fit of crying, a restless night, and the seeds are being sown to bring forth in the future a most undesirable crop of nervous fruit. Nervous hygiene for the coming race requires more careful study in the future, if one-half of the population is not to be doomed to nurse and cherish the other half as has been predicted by various writers.

It must be brought home to the masses that the early training of the child is all important, that the child's nervous system is as clay in the hands of the potter and that many of life's failures owe their lack of success, not so much to themselves, or to their heredity, as to their unfortunate early environment and to the failure of their parents and others to do their duty by them.

On the other hand, many of life's successes have been fashioned in the nursery owing to maternal strivings fruitfully and well performed.

THE BODY AT ITS BEST.

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The systematic training of the human body is a comparatively new development of modern education. Certain bizarre phases of physical training are of an ephemeral nature, but it has developed out of an urgent need of modern life, and, in so far as its practice is founded on a thorough knowledge of the human organism, it has come to stay.

Our ancestors of a few generations ago got along without any formal training of the bodily powers. The child who was weak and sickly early succumbed to the severity of the conditions by which he was surrounded; while the same conditions of living served to bring forth in those who survived, all the physical possibilities of their natures.

Recent medical and surgical discoveries, together with a luxury of living of which our grandparents little dreamed, have brought forth a proportion of physically inferior men and women never before possible.

Besides the change to conditions of living which favor those poorly fitted for the struggle of existence, there has been a change to a different mode of living with respect to daily activities of body and mind; there has been the change from out of door to indoor life, from a general manual activity to the daily task of pushing a lever, or feeding a machine, or performing some like monotonous monomuscular movement from morning to night.

Children, formerly, were kept in school fewer hours and with fewer tasks. They learned less of Latin and Greek, of chemistry and physics, but they escaped dyspepsia and spinal deformities, and laid up, together with the mental training they acquired, a bank account of reserve physical force which they could carry to their life tasks, and which lent lightness to their burdens and gave zest to life's pleasures.

Above everything else, there was not in "the good old times" the tremendous strain (felt by old and young to-day) of the strife for wealth and preferment, and for the multitudinous luxuries, the possession of which is supposed to evidence the higher attainment of the modern man and woman.

I do not mean to imply that we are, on the whole, a more degenerate race than our forefathers, that we are physically worse—such a statement is untrue. As the natural outcome of the struggle for existence, which is fiercer to-day than ever before, there are finer specimens of physical development. We think of the knights of the Middle Ages as men of tremendous physique, but the well developed man of to-day cannot squeeze into their cast-off armor, and the athletic records of to-day would astonish the people of a generation since. This is true of those who are at the top of the ladder, but upon even these the strain of modern living falls heavily, while the number of those who find the struggle for existence a painful and dreary round, with little or no energy left from the cares of life for the enjoyment of its pleasures, is growing alarmingly.

Three factors tend to increase the number of those who are handicapped in life's race; namely, little forethought for the production of the healthiest offspring, the preservation through modern medical science of a large proportion of weakly infants, and the many conditions of modern living that retard the development of the human body. Our public schools are undoubtedly a hindrance to this physical unfolding, and being such frequently work strongly against their own ends, and overstrain or irrevocably damage the mechanism which they attempt to shape to perfect working. The people of a thousand years from now will doubtless look upon us as barbarous for placing a little girl or boy, whose whole nature is to be active, into a seat too large or too small, in a poorly heated, badly ventilated room, and made to sit like a little wooden image for hours at a stretch. Is it any wonder we turn out so many cases of lifelong indigestion, neurasthenia, spinal deformities, etc.?

The Greeks placed the development and training of the body at the very basis of education. They were believers in the harmonious working of the whole man; without theological bias they saw clearly the interworking and absolute interdependency of mind and body, and realized what is just becoming apparent to the modern mind—that a disordered body-mind mechanism cannot be expected to do the finest quality and the greatest quantity of work.

With the rise of Christianity came a strong reaction against every custom and idea of the pagan peoples, and the pendulum of thought as to the nature of the body and the relation of mind and body, took a wide swing from its former station and has remained long in that position.

Instead of being respected as one of the most beautiful creations of the Infinite, instead of being studied as the most complex and miraculous of wonder works, we have averted our gaze as from a thing abhorred. We have measured the stars, analyzed the rocks of the earth, studied minutely the phenomena of plant and animal life, but of this piece of workmanship—the human body—until very recently we have learned but little. Only a few years ago a president of one of our leading universities made a vigorous protest against the taking of measurements in the gymnasium, saying that it was improper to measure the human body and to try to improve it. That the human body, the human being, has improved was no result of this ascetic habit of mind, but in spite of it, nature asserting herself in killing off the weaker members of society.

The conditions of modern living and the strain of industrial strife is breeding an accumulation of the ill-fitted, and they, through their own experiences, are awakening to the need of correction of their ill-fittedness. They are beginning to think and plan for their children's future in a larger way, and it is becoming apparent to such that our method of education does not attain the end for which it should exist—the preparation of the child for best coping with life's problems, and for the happiest living. They are learning through hard experience the truth which will never be lost—the truth of the oneness of body and mind, and the equal divinity of both. We are getting back again, with a flying start, to the Greek ideal of the harmonious musical whole. We are coming to appreciate the words of Herbert Spencer, that "mind is not as deep as brain only, but, in a sense, as deep as the viscera." This is the fundamental idea on which education must build, and its program places thorough bodily care and training as the warp of all true education, without which a man may not reach his highest end in life.

The physical side of education comprehends the whole life unfolding of the child, from the very beginning to the full attainment of its powers, and the maintenance of those powers at their utmost capacity. It begins with the parentage of the child, and it includes the development and maintenance of the highest possible bodily health and capacity for work and enjoyment until life's close. 'Tis easier to say what is not comprehended in this science than what it embraces; and it is not difficult to see how much there is to be learned, how much must be experimental in the practical work which is attempted.

The truth of the interaction, the together-working of mind and body, is the foundation stone. Necessarily the training of mind and body cannot be separated; and by physical training we must mean the harmonious development of all the bodily powers at such a rate and in such degree as will correspond and proceed with the finest mental and moral attainments. There has never been profitable thinking without a healthy brain, and there has never been continuous work without a digesto-absorptive-eliminative-circulative mechanism capable of supplying the nervous system with a sufficient quantity of pure building material.

To quote from Alexander Bain: "Instead of supposing that mind is something indefinite, elastic, inexhaustible, a sort of perpetual motion, or magician's bottle, all expenditure and no supply, we now find that every single throb of pleasure, every smart of pain, every purpose, thought, argument, imagination, must have its fixed quota of oxygen, carbon, and other materials combined and transformed in certain physical organs. And as the possible transformation in each person's framework is limited in amount, the forces resulting cannot be directed to one purpose without being lost for other purposes."

We expect a child with only seventy-five units of force to keep pace with one who expends one hundred units. And we think a body that is handicapped by poor nutrition, imperfect eyes, or a deformed spine, can keep pace with one that is not obliged to spend extra force on account of these energy-wasting incumbrances.

We lay upon young boys and girls tasks at school and extra studies of music and art which draw nearly the whole sum of their bodily energies, and yet wonder that they do not grow, that they do not want to play as other children. If they fail to carry themselves erect we reprove them and try to force them to do so, instead of removing extra burdens in order that more energy can go to parts of the machine that would gladly do their proper work in building the body and keeping it erect if they had but half a chance.

We forget that it takes a large outlay of energy to sit erect, and more to stand; and that this outlay continues as long as we sit or stand. We do not realize that it takes energy to digest food and to keep the heart beating a hundred thousand times in twenty-four hours.

One hundred units of energy will not produce one hundred and one units of work, and if an over amount is used in one direction we must expect to use an under amount in some other way. The human mechanism may be compared to a factory in which are many machines for different kinds of work. These are all connected by bands with the center of force, the engine. One of these machines may be turned on and worked with great speed; two may be so run at the same time; but when more and more of the machines are attached to the power each does less and less work, since the energy is divided, and, unless the engine be very large, some of the machines will come to a standstill.

The human organism is a continuously working composite of many intimately connected and interdependent physicochemical apparatuses, each governed in the amount and quality of its work by its size and condition of repair (for these machines wear with use), and also by the force supplied to keep it going by the great storage battery of nervous energy. If this battery is deficient in size, or exhausted by extravagant outlay of force, the energy for work is lessened for each mechanism; or, if this energy be directed to one part to the exclusion of others, then the quantity and quality of work of these latter must suffer, and, all being interdependent, the whole must suffer and the sum of force be lessened.

Doubtless it will be remarked by the reader that much of the world's best work has been done by invalids. Say rather, by those who have broken down through ignorance or forgetfulness of their limitations, for the leaders in all departments of thought have been men of highly developed or well husbanded nervous energy. More and finer work might they not have done had they been in more perfect bodily balance. What words are more pathetic than those of Herbert Spencer, who, at the age of thirty, wrecked a fine physical make-up by over mental work: "What folly it is while finishing the engine so to damage the boiler that it will not generate steam." Or, "What is the worth of distinction, if it has brought hypochondria with it?" "Chronic bodily disorder casts a gloom over the highest prospects; while the vivacity of strong health gilds even misfortune." These were the words of experience.

Physical education comprehends the application of our knowledge of the structure and working of the human body not only at one period of life, but in all its phases of growth. We are not the same in any respect at different periods of life; there is not only a difference in size of the body as a whole, but the various organs differ in relative size and activity, and each faculty of the body-mind has its own time of unfolding. Growth and working come only through exercise at proper periods, but the drawing out through exercise must be so proportioned that one part of the whole shall not grow at the expense of another; and this is too easily possible, for an over-development in one direction is counterbalanced by nature with an under-development in another region. An overstimulated brain means an impaired digestion or stunted physique; and an over-developed muscular system will as surely be accompanied by a hindered mental development. We need not go far to find examples of both kinds of onesidedness.

The air we breathe, the amount of light we absorb, the clothing we wear, our food and drink, all affect us as a whole, as much as their surroundings affect the plants and animals. We take vastly more pains, however, in the study of the best conditions for the life and fine development of both plants and animals than we do in the growing of strong, beautiful, finely-balanced children.

We cannot revise the laws of nature and therefore deterioration begins the moment we neglect the bodily machinery. Our ancestry is an animal one, and the more we recognize this the better for us. We cannot get away from flesh and blood, nor can we live as disembodied spirits in this world. We read of saints who have tried that sort of thing, but such people never have been very helpful in making the human lot happier. There will always be enough of the morbid and melancholy in life.

Largely, but by no means wholly, physical training has to do with the development and exercise of the muscles. Our muscles are not solely for getting about— that is a main function—but they affect all other organs and functions in a marked degree. They act as storage places for blood, which may be used in the brain or elsewhere as demanded. The larger and better their quality (other things proportioned) the better the effect on the nutritive supply of the body.

The effect of the muscular movements on the circulation is enormous. Each muscle is a little heart, helping on the flow of blood and of lymph from the tissues. The action of all the organs is improved by the hastening away from them of waste matter and toward them of fresh materials which they need for work.

The heart is relieved of some of its work through the muscular pumping of the blood, and in many forms of diseases of that organ muscular exercises form a most valuable aid to treatment.

The effect on the digestive organs is marked. The blood is sent bounding through these organs; the glands which manufacture the digestive fluids are hastened in their action; the mechanical working of all the alimentary tract is helped; and the waste materials, the cinders of the engine, are helped along and not allowed to poison the body by their decomposition, as is frequently the case.

The lungs are set pumping so vigorously that all parts of these organs are brought into play. The action of the respiratory system also hastens the flow of blood and lymph to the heart, and so affects the whole body.

The action of all the glandular organs of the body which affect the quality of the blood is stimulated in a marked degree by bodily exercise, and the quality of blood is not only improved but the quantity. This means to the tissues all the difference between being served with cheap, ill-prepared, foul-smelling viands of a poor restaurant, and a meal prepared with all the skill of modern cookery from the best roasts and the finest vegetables of the market, since every cell of the body has an appreciation of the materials furnished it. We also know in theory the difference in working power of an engine which is well oiled, the flues of which are thoroughly clean, the cinders kept out, and the fire thoroughly spread and supplied with the best coal.

We cannot say that any one thing in the universe is more important than any other, and in the human microscosm each tissue and each cell has its part and its effect on the whole. We, however, look upon the nervous system as pre-eminent, just as the head of a large business is considered above its employees, though without these he would be nothing at all. The nervous system is the superintending portion, but it is absolutely dependent on all the other working forces of the human mechanism.

We consider the brain the seat of mental activity, but the stomach is just as much a center of thought, and the whole mental and moral nature is as surely soured by the soured nutriment furnished from a disordered digestion as a plant is withered by sprinkling with salt water. The brain is not the organ of the mind, the whole body is its organ; and the condition of the whole body and that of the mind are parallel.

The quality of blood affects the working of the brain. We all know the effects of a few drops of chloroform. The quantity of blood equally affects the working of the brain. We know the effect of hemorrhage. We have seen that sensible physical exercise improves the quantity and quality of blood in the brain, and so undoubtedly affects its working. Besides this, every portion of the body, every cell of the twenty-four billions, is directly or indirectly connected with the cells of the brain, and messages are continually travelling outward from that great central station along the nerve connections, governing the activity of those cells; but there is also travelling upward from all these cells to the central station information as to the condition of each organ, tissue and cell; and the sum of this information forms our consciousness of self, of health or illness, of condition for work or the condition of donothingism. If the messages from a tooth tell of pressure on a nerve ending, our whole being is upset, and we are unfitted for work, for pleasures, and we make others miserable with us.

The muscles forming so large a portion of the human body must be represented by a large portion of the brain; and the development of the muscular system and a large area of the brain must go on simultaneously. No muscular movement takes place without nerve activity. The stroke of a knife severing the nerve which goes to an arm will render that member useless, though the muscles all be intact.

The amount of muscular work done is dependent, then, on the size and quality of the nerve cells back of the muscles; and, vice versa, the development of the nervous system to its greatest capacity is dependent on the size and condition of the muscles. The final aim, then, of muscular training is to develop and train the nervous system.

The better developed we are physically, the better for us, not for the sake of the brute force, but for the added nervous energy it gives for prolonged mental and physical work and enjoyment, since all regions of the brain are intimately connected and we may draw upon the whole of it for physical work and also for mental work. We can draw upon it for both, but not at the same time for the *maximum* of both. We have all experienced the effect on memory and thinking powers of exhausting physical work and also the exhaustion of the physical forces by prolonged mental exertion.

The overtaxing of the brain in study stunts the bodily growth of a child, and the boy or girl who must be driven to study in school not infrequently comes out of his school life better fitted for the struggle of life than his companion who has ranked higher in his examinations. As Carlyle said: "With stupidity and a sound digestion a man can brave most anything."

Strength is one of the things attained by muscular exercise; but strength of muscle not at the sacrifice of strength in some other part of the organism, for a man may be very strong of limb and yet unhealthy; nothing is so disastrous as feats of strength, and those who make a business of such performances are always shortlived.

Every muscular movement is preceded by a discharge from some part of the nervous system. Those movements are accurate or inaccurate, economical or extravagant, purposeful or vague, according as there is just sufficient nervous force discharged and in just the right channels. Happy the boy or girl who gets his physical development in outdoor country life in a variety of occupations and of sport, with the indispensable [illegible]ages of pure air and abundant sun[illegible] In the gymnasium much can be done to [illegible]lop the muscles and to train to economy [illegible] nerve force by having the pupils do things accurately, easily and hence gracefully.

And this is a mental training differing from that of the usual schoolroom work, for here the pupil is *doing something,* and the effort finds outlet in the accomplishment of more than fixing a name or date in memory.

The will power is trained and the determination to do is aroused by seeing others do, while the accomplishment of exercises which looked impossible gives a confidence in self which is carried into other modes of work.

The training of all the larger groups of muscles has a marked effect upon special movements. The musician who has such a general nerve training will play with more ease and accuracy; the draughtsman will be more correct, and the artist will draw with a surer touch.

There are many other features of the effects of physical exercise and of gymnastic training, but they belong rather on the side of corrective and remedial work than on that of the general physical unfolding. The deforming tendencies of school life can be overcome or helped; disproportioned bodies can be corrected by special means. It is the aim of a rational physical training to develop a symmetrical man, not merely a big chest and broad shoulders, but the best proportioned, finely working machine that *heredity* and our own knowledge will allow —a body which, instead of dominating the mind through a deranged nervous system, a soured stomach, or a faulty circulation, is the buoyant and obedient servant of that force we call mind.

Possibly from what has preceded the reader might infer that physical training means unlimited bodily exercise—an idea frequently dominating the mind of teachers of gymnastics. Much harm has been done through this misconception. Because the instructor is strong and without stress of mental work or strain, too often he drives the boy or girl under his care, already nervously exhausted, to physical tasks beyond his power and against nature's promptings.

Again, in our colleges, all opportunities are afforded to the men who least need physical development, and in whom the rational procedure would be to discourage the trend to athleticism. So long as athletes are depended upon as advertising media for schools, and the general physical care of its students is overlooked, these faults will not be corrected.

Physical education includes in its curriculum bodily exercise, but it likewise includes *rest.* The latter is quite as important as the former, and this view of the subject needs more emphasis at present than any other. We are quite overwhelmed to-day with various systems of bendings and stretchings, of pulley weights and punching-bags as cure-alls, until one would fancy that to be well and strong one must be eternally at work with some kind of gymnastics, and that if one is not in the best condition, it is only because he has not been sufficiently persistent or violent in his bodily movements. It is lost sight of that the building and rebuilding of bodily tissues goes on only with sufficient rest, both of body and mind. Fortunately, after the body has reached its full development, it takes but little muscular exercise to keep the body-mind in finest condition for its daily tasks and for health.

Just as important as exercise in the realm of physical training is the proper proportioning of food, in both quantity and quality and its preparation. The stress of modern living no longer leaves us with sufficient energy to use in digesting and assimilating all manner of foods; and with this necessity of economy of force in this direction has begun, for the first time, a serious study of the food values and their relation to our general well being. The physical trainer, then, in the larger sense, studies the fuel needs of the body for the least waste of energy in its assimilation, and the greatest production of energy and of good tissues in the body.

It is needless to say that physical education includes the observance of all other details which may influence the body-mind for its highest good, including clothing, pure air, sunlight, etc.; it includes also the prevention and correction of bodily faults, optical defects, spinal deformities, etc.

And the end of it all is, as before stated, the production of the finest type of moral beauty in man and woman, for the highest state of moral development is compatible only with conditions of greatest harmony of the body-mind. Such a statement will sound absurd to many, but it depends on one's definition of ethics. If we include in it only the observance of the ten commandments, physical training might seem to have little effect. If we mean by morality the weighing, for the happiness of self and others, of each act of our lives, then physical training is a great force in this direction. What we are must affect others directly or indirectly. Sin and sickness have always been connected, and rightly. According to a celebrated physiologist, "Bad breath has caused more misery than all the bad laws ever enacted." Irritableness, "nervousness," causes untold unhappiness to those about us. It is only with a strong harmoniously working body that one can carry his own burdens joyously, much less help lighten those of others. A superabundance of energy is the foundation of unselfishness. With bodily weakness comes shrinkage from duty, and such cowardice may accompany even the highest and noblest resolves.

"When a man is in perfect health no matter where he goes he is sensitive to social influence and social wants." "Health lends a cheering influence. It gives *pleasure* to work." (Beecher.) "A high state of vigor in the nutrition of the body is mirrored in buoyancy of spirits, and imperfect tissue changes in mental depressions." (Mercier.)

Our moral nature is not a something apart from our total make-up, and we are only living our best when we are all that we ought to be, all that is possibly attainable. What this possibility is we may never know, but we can make use of the know edge we have.

All that has been said applies especially to the period of growth and development, and we cannot expect to make up later for mistakes made at that period. There is nothing more marvelous, more profoundly interesting than the study of the child and his unfolding; and certainly nothing half so important.

Do not think that because I have spoken of the effect on the whole being of physical training that I mean that a finely developed body necessarily carries with it a fine mental nature and a keener insight into the highest things of life. This is perfectly untrue; for it is possible to overdevelop the physical at the expense of the higher nature. People are not at all rare who think more of their stomachs or their muscles than they do of their minds, and the examples of over-development on the physical side are too abundant.

Pain and suffering are means toward beautifying and ennobling life, else why would they be found in this "best of all possible worlds." "Your pain has taught you a tender pity for all the pain outside of you, and a patient gentleness which was wanting to your nature in its days of barbarian health." What fineness and strength of spirit we have all known in weak and ailing bodies! And, as was said before, the noblest work of the world has been done by invalids.

With all our knowledge there will always be enough of sickness in the world, and enough suffering without preventable physical weakness and ills. And we should begin to realize that only with a fully developed and strongly working body can we develop to its utmost capacity, in both quantity and quality, the spiritual possibilities of our nature, both for our own highest happiness and that of those about us. Mind and body are for the present one, and the more strongly we grasp that idea the surer progress we will make toward perfect living.

I quote the words of Mr. Spencer, which year by year come with stronger meaning to an ever widening circle of readers: "Perhaps nothing will so much hasten the time when body and mind will both be adequately cared for, as a diffusion of the belief that the preservation of health is a *duty*. Few seem conscious that there is such a thing as physical morality. Men's habitual words and acts imply the idea that they are at liberty to treat their bodies as they please. Disorders entailed by disobedience to Nature's dictates they regard simply as grievances, not as the effects of a conduct more or less flagitious. Though the evil consequences inflicted on their dependents and on future generations are often as great as those caused by crime, yet they do not think themselves in any degree criminal. It is true that in the case of drunkenness the viciousness of a purely bodily transgression is recognized, but none appear to infer that if this bodily transgression is vicious so too is every bodily transgression. The fact is that all breaches of law of health are *physical sins*. When this is generally seen then, perhaps not till then, will the physical training of the young receive all the attention it deserves."

Of course *the* trainers, first and last, in physical development must be the parents; the foundation of physical well being must lie with them. Naturally this must require a great deal of knowledge, but why should parenthood not require the greatest knowledge? Months of study are necessary to learn the proper methods of placing fuel in the fire box of a locomotive to adjust the amount of fuel and regulation of draught that will produce the best results in the speed and wear of the engine.

Surely it is vastly more serious to study the chemical make-up of children, and to regulate the fuel which they consume, that the best results may obtain. Many a child is stupid at school from sheer lack of those elements in his food which are necessary for good brain work and growth. And food is but one item in the whole complex problem of physical well being. As Doctor Oppenheim puts it: "A child is usually thought well fed if he does not starve; well clothed if he does not freeze, etc., etc."

Good authorities tell us that parental ignorance is the author of fifty per cent. of the deformities of the human body; many are the afflictions besides, which might have been avoided "if we had only known."

Not less thorough knowledge of what they are dealing with should be required of those who in schools make a profession of the somatic training of the young. Many of these are well prepared by a two years' course in one of the normal schools of gymnastics, which offer, besides a gymnastic training, a training in general bodily care. In some of the larger institutions the physical work is under the direction of a phsyician, while others in charge of such work are more thoroughly prepared by special courses in gymnastics and by a medical schooling.

As regards the muscular exercises, their selection, order, and methods of class teaching, the schools of gymnastics follow largely the ideas of those two enthusiastic founders of the art of gymnastic training—Jahn of Germany and Ling of Sweden—and we have the German and Swedish "systems." While each has in view the physical development of the child, the former school lays especial stress upon the value of muscular exercise as a means of mental and moral training, and so makes use of all possible movements and combinations of movements, enriching the number by all imaginable apparatus.

The followers of Ling look rather to the hygienic side, and devote their energies to the symmetrical development of the body, and are careful to select only such exercises as they believe are conducive to an erect posture, the correction of tendencies toward deformity, and inharmonious functioning of the organs. With them the training of the senses, of the will, etc., are secondary. This system has been nicely worked out, with special view to the correction of the conditions of the schoolroom, and so especially is adapted for that use. The German system is certainly well adapted as a developmental method, where a formal training in more or less closed, more or less dusty rooms, must be substituted for free and natural, self-directed play in the open air, with trees and hills, bats and balls for apparatus.

Practically all the gymnastic teaching of the schools and colleges, the Young Men's and Young Women's Christian Associations, is after the German or Swedish method, or a modification or combination of them. There is, besides, the Delsarte system, which claims much, but can hardly be said to be of superior value from a developmental or corrective standpoint.

Our own country has given to this work a method of examination of the individual by measurements, a study of his family history, of his own personal defects, and an attempt to overcome hereditary tendencies and lack of symmetrical development by prescription of exercises and by suggestions for personal hygiene.

While formal gymnastic training is a necessary product largely of present conditions of living and present methods of schooling, no amount of such indoor exercise will ever equal, either for muscular, mental or moral development, the free play in the open air, or the varied, continuous manual labor of outdoor occupations or of household duties, where the mind is absorbed in its work. It is only with a change from present methods of miscellaneous mental stuffing, which goes by the name of education, and with a like change in ideals of living that the best conditions of body-mind attainment will be reached. It is a pitiful statement that comes from teachers in our large cities that the children do not know how to play, or are so much "dressed up," so self-conscious, that they consider it undignified to toss a ball or to play tag.

As adviser to both parent and to gymnastic teacher, and to the adult who would attain his utmost, the physician is coming to be more and more sought as one whose business it is to prevent disease and deformity, to remove hindrances to growth and to promote the highest physical welfare, as well as to help nature repair damages due to the transgression of the laws of health and of development.

While physical education lays especial stress upon the influence of body on mind it must also emphasize in both theory and practice the equally great influence of mind on the body. If a cross word will send the pulse of a horse speeding seven beats a minute faster, and the frown of his master check the flow of digestive fluids in a dog, how much greater physical effects must be produced by a like treatment of a child, and what must be the consequences upon the person who allows states of anger and worry to hold sway over him. "An emotion tires the organism, and particularly the nervous system, more than the most intense physical and mental work" (Dubois), and "intellectual work plays havoc when it is accompanied by worry" (Dejerine). "There are no somatic phenomena, however slight they may be, that have no influence on our mentality; and above all, there is no movement of the mind without its echo on the organism." (Du Bois.)

Christian Science, the New Thought, and other cults are but expressions of the same felt need for a less defective and freer working tool through which the spiritual may work out its aspirations of being and doing, but "it is not enough to fortify the soul; for the soul will be oppressed if not assisted by the members, and would have too hard a task to discharge two offices alone." (Montaigne.)

There are few, indeed, who have not some physical defect from inheritance, from parental ignorance, or from accident, and the most inspiring lives are those which have been most hampered, but in which the man or woman, taking due cognizance of his faults, has sought diligently to "know himself" physically, and has made use of all means to develop and conserve his bodily powers that he might be and do all that was possible for him in life. Such have put to shame men of fine physique, in both quality and quantity of world good accomplished. I need only mention among such the names of Herbert Spencer and Immanuel Kant. Would that we could all say with the latter: "How could one be in better health than I am!"

It is but a few decades since it was written: "Mankind can hardly be said to be in earnest in regard to health;" to-day, health is being appreciated as never before, and the words of Novalis appeal practically, as well as poetically, to the twentieth century man and woman: "There is but one temple in the world, and that temple is the Body of Man. Nothing is holier than this form. We touch Heaven when we lay our hands on the human body."

EATING WITHOUT HUNGER.

"A PROLIFIC cause of chronic indigestion is eating from habit, and simply because it is mealtime and others are eating. To eat when not hungry is to eat without relish, and food taken without relish is worse than wasted. Without relish the salivary glands do not act, the gastric fluids are not freely secreted, and the best of foods will not be digested. Many perfectly harmless dishes are severely condemned for no other reason than they were eaten perfunctorily and without relish and due insalivation.

"Hunger makes the plainest food enjoyable. It causes vigorous secretion and outpouring of all the digestive fluids—the sources of pytalin, pepsin, trypsin, etc., without a plentiful supply of which no foods can be perfectly digested.

"Wait for an appetite if it takes a week. Fasting is one of the saving graces. It has a spiritual significance through its great physical and physiological importance. If breakfast is a bore or lunch a matter of indifference cut one or both of them out. Wait for distinct and unmistakable hunger—and then eat slowly. If you do this you need ask few questions as to the propriety and digestibility of what you eat, and it need not be predigested!"

PNEUMONIA AND ITS TREATMENT.

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In this paper it is to be understood that the term pneumonia means that form of inflammation of the lung which is caused by infection by a microorganism, usually the micrococcus pneumoniæ, though others may do so; this form is also styled lobar, fibrinous or croupous pneumonia; while the exciting cause is some microorganism there are predisposing causes to be considered which act either by rendering the pulmonary tissues less resistant or by increasing the virulence of the bacteria present in the mouth and air passages of the individual; the more important of these predisposing causes are systemic depression, the presence of some intercurrent disease, as typhoid fever, measles, whooping cough, etc., fatigue, exposure to cold and injuries to the lungs; alcoholic intoxication predisposes especially when in conjunction with exposure.

The symptoms are much better understood if we consider briefly the pathologic anatomy of the disease; at the very beginning of the attack we find first an engorgement or congestion of the affected area, which causes the part involved to be dark red in color, swollen, heavy and to crepitate less on pressure than the normal pulmonary tissue; if we make a section through the diseased portion of the lung a sanguinolent fluid exudes and few air bubbles will be seen if we compress the part; a microscopic examination shows the septa to be swollen and the capillaries congested, while many red corpuscles are seen in the exudate which fills the alveoli and bronchioles. This stage of engorgement speedily passes into the stage of consolidation, in which the affected area becomes solid and resembles the tissue of the liver (hepatization) and is friable, the lung is swollen and often marked by the indentations of the ribs; if we make a section at this time the cut surface will be dry and covered by minute projections, which are small fibrinous casts or plugs in the bronchioles and alveoli. This stage is followed by that of resolution, in which there is a softening of the exudate, a regeneration of the alveolar epithelium and a gradual returning to the normal; as pathologic sequelæ we find that occasionally abscesses form; these are generally small, in rarer cases gangrene of the affected area is formed, again small nodules may undergo cheesy degeneration; indeed, some cases are tubercular in the beginning; chronic consolidation may result. Aside from these changes in the pulmonary tissue, we find that the pleura rarely escapes being involved; the right heart is often dilated because of having to labor against increased resistance in the lungs; occasionally the pericardium becomes involved, while endocarditis of either the simple or malignant type is more common in this than in any other acute infection with the exception of rheumatism.

There is no disease presenting more clearly defined symptoms in a typical case than this one; the incubation, or prodromal period, is short, as shown by the sudden onset after exposure. There may, however, be headache and malaise for a day or so, but usually there is a violent chill lasting from 15 to 30 minutes; this chill is generally not repeated; the temperature rises within a few hours to 103° or 104° (F.), often higher; the pulse also becomes more rapid, running usually from 104 to 130 beats per minute; the respirations are increased from 30 to 60 per minute in adults. A point to be borne in mind here is the variance in the normal ratio of respirations to the pulse beats, being now in the ratio of one to two and a half, or even one to two, instead of the normal ratio of one to four; there is often heard a short groan on expiration, which is said to be almost diagnostic. The conversation will be of the interrupted type because of the rapid breathing; pain will be complained of and the patient will lie on the affected side generally, as in this way the movement will be restricted, thus limiting the pain somewhat; the tongue is usually coated and dry; the face has an anxious expression and is flushed, eyes bright; in the beginning will have a short, dry cough, but in two or three days there will be expectorated the rusty sputum typical of this disease. This sputum is so tenacious and viscid that it is wiped from the tongue and lips with difficulty; the urine is of high color and sp. gr., the solids are increased with the exception of the chlorides, which are, as a rule, diminished until after the crises. If we make a blood count we find, in nearly all cases, an increased number of leucocytes, the absence of this being an unfavorable sign. The results of a physical examination of the thorax will depend upon the stage of the disease at the time the examination is made. If made during the stage of engorgement or congestion inspection will reveal to us that there is a diminution of respiratory movement on the affected side; if both lungs are involved then the breathing is chiefly of the abdominal type; palpation generally shows increased fremitus over the affected area; auscultation reveals the respiratory sounds to be broncho-vesicular in character and subcrepitant rales are heard; during the first stage percussion may yield a high pitched note, or a dullness of the area involved with a tympanitic note of the surrounding lung. If we examine during the second stage inspection will reveal that the respiratory movement of the affected side is limited still more than during the first stage, while that of the unaffected side is correspondingly increased; palpation will detect an increased vocal fremitus, a friction fremitus may also be felt; the percussion note at this time varies from a tympanitic dullness to flatness over the affected portion of the lung; but in central pneumonia, where the consolidation is deep seated, the resonance may be so slightly impaired as to be almost unrecognizable, though a sense of increased resistance may be imparted to the finger when percussing; auscultation now finds the breath sounds to be typically bronchial; the voice sounds are distinctly heard and crepitant rales frequently detected. During the last stage, or stage of resolution, there is a gradual return to the normal, the respiratory sounds become broncho-vesicular, the resonance of the affected side gradually increases, moist rales take the place of the crepitant and subscrepitant ones, while the respiratory movements become more free.

Cases of pleurisy in which there is a purulent exudate may cause some confusion in the diagnosis, but the exploratory needle will at once clear up the doubt, besides the heart and other viscera are not displaced in pneumonia as in hydro- or pyothorax; sweating, rapid emaciation, irregular temperature and slower course of the disease will distinguish acute pneumonic phthisis; some question may arise in the differentiation of typhoid from pneumonia, as some cases of typhoid begin with rapid respiration, etc., suggesting pneumonia, while patients with the latter may sink into a typhoid state; but the absence of rose spots, presence of the rusty sputum and leucocytosis will generally enable us to diagnose pneumonia from a case of typhoid.

Almost every practitioner has his own ideas as to the method of treating this malady. A study of results shows that the mortality rates do not differ nearly so much as would be expected. However, there is no place where a good physician is more easily told from a poor one than in the care of a case of lobar pneumonia. An eminent authority has said, "Patients are more frequently damaged than helped by the promiscuous drugging which is still too prevalent," yet we feel that "judicious drugging" will modify the course of the disease. The administration of drugs, however, must not be depended upon entirely, scientific nursing being required if we would achieve the best results.

First let us consider the general care of the patient and place him in a quiet, bright and well-ventilated room. This last does not mean a room as ventilated ordinarily. We feel a patient would do far better in the open air, and in order that this may be secured as nearly as possible, it is the writer's custom to have every window kept open; cover the patients warmly, keep them out of draughts, and one will be surprised at the improvement brought about by this procedure alone, in a severe case; visitors must be excluded from the sick room and the patients kept in bed, not even permitting them to raise up to take medicine or water if we would be on the safe side; the diet throughout should be systematically administered, and consist of such readily assimilated articles as milk, broth, gruels, soft eggs, etc.; plenty of water must be given, either plain or carbonated, or lemonade if desired; good results are obtained if we give 8 to 10 grains of sodium chlorid in six or eight ounces of water every three or four hours, the theory being that we in this way supply chlorides to the system, which aids in combatting the infection; a little lemon juice added to this will mask the salty taste. The bowels must be kept active. Our first precedure in a case of pneumonia is to give 2 grains of calomel in broken doses, following with a saline and repeating the latter each day in doses just sufficient to secure the desired result without too free action. A personal view is held that much waste matter is eliminated, during the course of an attack of pneumonia, by the alimentary tract, and so some intestinal antiseptic is given, having a personal preference for the sulphocarbolates; in many cases no other treatment is necessary than that given above, until the sixth or seventh day of the disease, when it is generally the safest policy to give medium-sized doses of strychnin to sustain the heart.

Having in a brief manner outlined the general management of a case, we will consider the treatment of some of the special symptoms. For the pain at the onset of an attack usually one or two hypodermics of morphin sulphate, ¼ grain, are given; if necessary after this codein, ¼ grain, may be given by the mouth every four hours; ice bags packed about the affected side will often afford marked relief at this time. In robust individuals with a full bounding pulse, flushed face and high temperature (asthenic case) veratrum may be employed in small, frequently repeated doses until the pulse is quieted and heart action less labored. This should never be given after the second day; if the fever becomes excessively high we employ cool sponging, continued until temperature falls to about 101° F., being careful of course not to chill the patient. Never do we use coal-tar antipyretics; if delirium comes on, ice bags to the head and affected side with hot water bottle to feet and the administration of sodium bromid will generally quiet them; in alcoholic cases the use of whiskey at this time is valuable. If edema of the lungs supervenes, cupping, preferably wet, is indicated, together with hypodermic administration of adrenalin sol. 1:1000 and atropin; the dry, unproductive cough of the first stage may be quieted by small doses of codein; later in the second and third stages we employ expectorants, of which none is more efficacious than a combination of ammon. chlorid with mist. glycyrr. comp.; often ammon. brom. is combined if there is much irritation or the carbonate when its action upon the circulation is desired; the action of the heart must be watched very carefully; when we find a "laboring" heart with relaxed vessels alcohol is indicated, and at the same time atropin should be given, 1-100 gr. every four hours, but in all cases strychnin is the "sheet anchor" for the heart and should be given as the crisis approaches always; even in alcoholic cases it seems more valuable than whiskey; digitalis has not proved of much service, but strophanthus is not to be forgotten; if the right heart gives indication of being overcome, venesection will relieve the load and thus aid in tiding the heart past the crisis; if collapse occurs, enemeta of hot saline solution whiskey, adrenalin and strychnin are our best agents; in cases of delayed resolution a prescription containing pot. iodide and syr. ferri iod. will be found very useful.

Of late there have been many cases reported where the Galbraith "quinin and iron" method of treatment has given very satisfactory results; the writer's personal experience with this is limited to three cases; in all three the results were satisfactory. Two of the cases give all of the initial symptoms—chill, localized pain, rapid respiration, high temperature, slight dullness, on percussion, of well-defined areas of the lung, broncho-vesicular breathing, etc.; in both cases the temperature in a few hours went to 102.5° F. in one, 103.1° F. in the other; each was given 30 gr. of quinin sulfate by the mouth and 15 gr. one hour later; the temperature in first case (102.5°) dropped to 97.5°, in the other to 99° F. in about three hours; pain was relieved in both cases in about two hours (no morphin, codein, acetanilid, etc., was used); the respirations in first case dropped from fifty to twenty-five per minute, in the second from thirty-seven to twenty; pulse beats in first case dropped from 120 to 104 per minute, in second from 128 to 96 per minute; the temperature in first case was 100° F. the second day; 20 gr. of quinin sulfate was given and ten grains more in one hour; in three hours temperature was normal and had no further rise; in each case tr. ferri chlor. m. 8 was given in syr. lemon every four hours; this last was kept up one week in both; the first case was up on the fourth day and seemed well in every way; the second case was up on the third day and had no further trouble; in this case there was expectoration of "rusty sputum" on the second day during the late afternoon, but none after patient was up; some criticism might be advanced because they were permitted out of bed so soon, but each got up against the physician's wish, as they felt well; the writer feels that these two cases were "aborted," if he may be pardoned for employing this term and applying it to an acute infectious disease; the third case was in a man 32 years of age; he had been feeling badly for three or four days; respiration was 24 and pulse 90 per minute (note the wide variance here from the usual rate of respiration and pulse in pneumonia and the persistence of the normal ratio); temp. was 102.6° F.; entire right side of thorax gave flatness on percussion and typical bronchial breath sounds, had cough, with expectoration of very viscid "rusty sputum;" face wore an anxious expression; complained of great pain; heart sounds good; accentuated second sound of pulmonary valve; heart not displaced (this would aid in showing that right pleural cavity was not fillled with a pleuritic effusion); case was remarkable because of absence of marked respiratory embarrassment; he was given 32 gr. of quinin sulfate, in one hour 15 gr. more; at end of second hour 8 gr. more; four hours later was resting perfectly easy, with no pain; temperature was now 101.5°; respiration 36, pulse 92 per minute at this time; tr. ferri chlor. m. 8 every four hours now begun; the next morning temp. was 101.8°; respiration 20 and pulse 84 per minute; same dose of quinin repeated as day before; in the afternoon temp. was 100°, resp. 18, pulse 80; quinin sulfate gr. 6 was ordered every four hours, making the doses come between those of the iron; this was kept up two days, when the quinin was left off, and he was given an expectorant; his convalescence was slow, but in twelve days was up, feeling well and able to be about his usual light duties on his hall.

The remarkable point about these cases was the very quick relief from the distressing symptoms, especially labored respiration, the pain, and quieting of the pulse; the lowering of the temperature is also to be noted; the only symptoms of cinchonism appearing were a slight deafness in the last case and some slight tinnitus in the first; in the last case, even though the improvement in the symptoms was very marked, the consolidation was not affected in the least. The writer can give no explanation of the action of quinin and iron given in this manner, but the good results obtained in the cases mentioned will lead to its trial in future ones, along with fresh air and careful diet.

THE body is the armor and cutlass of the soul.—JEAN PAUL.

THE RELATION OF GENERAL ASTHENIA TO ASTHENOPIA.

By ALBERT C. SNELL, M.D.,
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THE axiomatic truth that anasthenic condition of the entire system does of necessity include all of the separate parts of the system must be admitted. The practical application of this fact, however, has failed to receive its proper attention in considering the influence of asthenia on asthenopia.

Asthenopia is such a comprehensive term that both for the sake of clearness and for limiting the scope of this paper a definition is necessary. Asthenopia is "incapacity of the eyes for any continuous exertion in spite of the fact that there is good visual acuity." According to the limitations of this definition good sight is present, hence all pathological conditions are excluded—or, in other words, the incapacity is functional. For the purpose of this paper, then, asthenopia may be defined as difficult vision.

The fundamental causal factor of difficult vision is not always so simple a matter to determine as it might seem to be at first. Vision itself is dependent on many related and interdependent parts or organs; thus the causes for difficult vision are usually interdependent, the disturbance being confined to no single part or organ. The causes of disturbance may be found either in the eye itself or in the general system; that is, in the first case the causes may be found to be lack of extrinsic muscular equilibrium, refractive errors, or weak ciliary muscles; in the second case the causes may be found in a deranged nervous system or in a general asthenia.

The fact that the cause of difficult vision may be found in the eye itself is generally recognized; but the fact that the cause of the disturbance may lie in the condition of the general system has not received its proportionate degree of attention. It is with but one phase of the latter cause that this paper will deal—that is with the influence of a general asthenia in the production of asthenopia.

One of the most important acts of the visual apparatus is to so change the focus of the crystalline lens that objects in the distance, at the near point, and at all intermediate points, when looked at, may be seen distinctly. This is known as accommodation, and is accomplished through the agency of the ciliary muscles. That is, accommodation is muscle work. Whenever an object nearer than twenty feet is looked at, some degree of ciliary muscle effort is required in order to see distinctly. The amount of muscle effort required depends upon the nearness of the object viewed and the length of time that accommodation is sustained.

Hence a natural question is "How long can this effort of accommodation be continued without discomfort and without harm to the eyes?" All eye muscles are subject to the same physiologic laws as other muscles, and therefore become fatigued sooner or later according to their particular tone or strength. This fatigue is just as physiological to normal eye muscles as it is to any other set of muscles; and the symptoms of ciliary muscle tire are no more indicative of harm to the eye than a tired arm muscle is to the arm. Excessive ciliary fatigue bears about the same relation to the possibility of producing injurious eye strain as excessive muscular fatigue of other sets of muscles does to the possibility of causing injury to themselves. There certainly is a limit to the muscle endurance of any muscle wherever it may be situated. But nature, through the blessing of pain in some form, never fails to give warning when that limit is being reached.

Many people seem to think that the eye is the great exception to nature's law of fatigue. During the day such persons use their eyes for eight or ten hours at some near eye-work; during the evening they give their eyes two to four hours' additional work in sewing or reading. Thus their ciliary muscles are required to work ten to fourteen hours a day. Naturally they complain of difficult vision. The eight-hour day is becoming universal for those who follow manual occupations, and the law recognizes that such a day is sufficiently long for the good of a man's well-being. But eye workers often attempt from twelve to sixteen hours of work a day. Sooner or later they call upon the oculist for a pair of glasses to relieve the discomfort of "weak," painful, watery eyes. Such patients of course do not need a pair of glasses; but they do need some information concerning the hygiene of living and the laws of physiology.

The quality of the ciliary muscle tone or strength cannot be separated from that of the general muscular system. In looking over the records of patients who have normal eyes (normal by nature or rendered so by proper correcting glasses), and who were complaining of asthenopic symptoms—headaches, "weak" eyes, watery eyes, eyes sensitive to light, and so forth—we find that these patients as a rule are far from athletic. The great majority of them are women weighing one hundred pounds, more or less, who because of their sedentary lives give their muscles very little exercise. They belong to the class of women who because of their occupations are unable to take regular exercise without much personal inconvenience; or they belong to that equally unfortunate class who because of too much of this world's goods are never compelled to make the least physical effort and have no desire to do so. All the muscles of such patients are necessarily flabby, soft and weak. and their eye muscles must be in a like condition.

Men who lead studious lives are proverbially asthenic. Some one has said, as I remember it, "A keen mind makes a thin blade of man." Is it reasonable to expect that people whose muscles are in a weak, flabby condition should have strong eye muscles? Is it reasonable to expect that they should be able to do many hours' of continuous reading or other near eye work without causing distressing eye symptoms? If you admit that normal eye muscles can and do become fatigued, it must follow that weak eye muscles will become fatigued even more quickly.

During convalescence patients often complain of inability to use their eyes for reading. While one is recovering from an illness the temptation to spend the time in reading is very strong. It is quite common to have a patient say that he has done more reading during a convalescence than during all his previous life. At this time, when the entire system is in an asthenic condition, we should realize that we should not overindulge in reading. The eye muscles are in an asthenic condition as well as the rest of the muscular system, and consequently become fatigued more quickly. The use of eyes in moderation during convalescence does not do harm to the eyes themselves; but when symptoms arise it is prudent to discontinue near work. The asthenopic symptoms, which appear during convalescence, as a rule, will spontaneously disappear when the patient regains his normal strength.

Any systemic condition which is debilitating, such as tuberculosis, cancer, rheumatism, blood dyscrasias, and so forth, may cause asthenic symptoms in eyes that are structurally normal. Temporary exhaustion, severe hemorrhages, prolonged lactation and excessive menstruation may cause temporary asthenopic symptoms which disappear when normal conditions are restored.

The converse of the proposition thus far considered is also true. Men whose muscles are strong, whose occupations require constant physical exertion, and who therefore have good muscular tone, very seldom complain of "weak" eyes or difficult vision. Not only is this true of those whose eyes are normal, but it is also true of those who have ametropia of the various degrees.

The importance of correcting real errors of refraction should not be underestimated. But there are many people wearing glasses without relief because the fundamental cause of the ocular disturbance has been overlooked. Many more are wearing glasses which they could easily lay aside if they would build up their general system.

From the above we see that the ability to use the eyes with comfort very largely depends on the strength or tone of the ciliary muscles; that the strength of the ciliary muscles is in direct proportion to the strength of the general muscular system; that any debilitating condition of the general system has a weakening influence on the eyes, and that in a strong, healthy body asthenopic symptoms are rare. Thus there is urgent need for greater consideration of the general health and for more rational living. If the system is kept in good condition many eye disturbances will be avoided; and many symptoms which have appeared when the general system was asthenic will disappear of themselves when the system is sthenic.

53 South Fitzhugh Street.

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THE MEDICAL AND SURGICAL KNOWLEDGE OF SHAKSPERE *

with explanatory comments by JOHN W. WAINWRIGHT, M.D.

(*Continued from page 220.*)

SHAKSPERE IN MEDICINE.

The childing autumn, angry winter, change
Their wonted liveries.
—*Midsummer Night's Dream, Act II., Sc. 2.*

Evidently a very unhealthy place.

Demitrius. But, like in sickness, did I loathe this food
But, as in health, come to my natural taste,
Now do I wish it, love it, long for it,
And will for evermore be true to it.
—*Midsummer Night's Dream, Act IV., Sc. 1.*

Sir Andrew. Methinks sometimes I have no more wit than a Christian or an ordinary man has; but I am a great eater of beef, and I believe that does harm to my wit.

—*Twelfth Night, Act I., Sc. 5.*

We find a reference to the effects of beef eating also in Troilus and Cressida, Act II. "Thou mongrel beef-witted lord!" while "with no more wit than an ox" is often quoted. Halliwell quotes Borde in the Regyment of Healthe 1567 (Regimen of Health) "Beefe is good meate for an Englyshman, so be it the beeste be yonge, and that it be not cow flesshe, for old beefe and cowe flesshe doth engendre melancholy and leprouse humours." All of which would lead us to understand that a too constant diet of beef was not conducive to a perfect or active mental state or to a quick wit.

Nerissa. And yet, for aught I see, they are as sick that surfeit with too much, as they that starve with nothing: It is no small happiness, therefore to be sated in the mean; superfluity comes sooner by white hairs, but competency lives longer.

—*Merchant of Venice, Act I., Sc. 2.*

This aphorism applies to-day as well as in Shakspere's time.

Second Lord. But I am sure, the younger of our nature,
That surfeit on their ease, will, day by day,
Come here for physic.
—*All's Well That Ends Well, Act III., Sc. 1.*

The medicine meant here is not necessarily a cathartic.

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SHAKSPERE IN MEDICINE.

Petruchio. I tell thee, Kate, 'twas burnt and dried away;
And I expressly am forbid to touch it,
For it engenders choler, planteth anger;
And better 'twere that both of us did fast,
Since of ourselves, ourselves are choleric,
Than feed it with such over-roasted flesh.
—*Taming of the Shrew, Act IV., Sc. 1.*

We have here the mental effect rather than the physical in being compelled to eat of "burnt meat."

Clown. ————; that such a one, and such a one, were past cure of the things you wot of, unless they keep very good diet.
—*Measure for Measure, Act II., Sc. 1.*

Hotspur. ————; worse than the sun in March,
This praise doth nourish agues.
—*Part First, King Henry Fourth, Act IV., Sc. 1.*

Falstaff. ————, for I'll purge, and leave sack and live cleanly, as a nobleman should do.
—*Part First, King Henry Fourth, Act V., Sc. 5.*

Even to this day it is thought that purging and tonics or blood purifiers taken in the spring prepares one to enjoy good health the rest of the year.

Falstaff. There's never any of these demure boys come to any proof; for thin drink doth so over-cool their blood, and making many fish-meals, that they fall into a kind of male green-sickness; and then, when they marry, they get wenches; they are generally fools and cowards;—which some of us should be too, but for inflammation.

* * * * * * * * * * * *

If I had a thousand sons, the first human principle I would teach them should be,—to forswear thin potations, and to addict themselves to sack.
—*Part Second, King Henry Fourth, Act IV., Sc. 3.*

There is no need nowadays to teach young men "to forswear thin potations." The omnipresent cocktail could not be considered such.

SHAKSPERE IN MEDICINE.

Cardinal Wolsey. Sir,
For holy offices I have a time; a time
To think upon the part of business, which
I hear i' the state; and nature doth require
Her time of preservation, which, perforce,
I, her frail son, amongst my brethren mortal,
Must give my tendance to.
—*King Henry Eighth, Act III., Sc. 2.*

Timon. (To Alcibiades) Be as planetary plague, when Jove
Will o'er some high vic'd city hang the poison
In the sick air.
—*Timon of Athens, Act IV., Sc. 3.*

Hastings. The king is sickly, weak, and melancholy,
And his physicians fear him mightily.
Gloster. O, he hath kept an evil diet long,
And over much consumed his royal person;
—*King Richard Third, Act I., Sc. 1.*

Coriolanus. Bid them wash their faces,
And keep their teeth clean,—
—*Coriolanus, Act II., Sc. 3.*

Coriolanus. ———, against those measles
Which we disdain should tetter us, yet sought
The very way to catch them.
—*Coriolanus, Act III., Sc. 1.*

Portia. What mean you? Wherefore rise you now?
It is not for your health thus to commit
Your weak condition to the raw-cold morning.

* * * * * * * *

Is Brutus sick? and is it physical
To walk unbraced, and suck up the humours
Of the dank morning? What, is Brutus sick,
And he will steal out of his wholesome bed,
To dare the vile contagion of the night?
And tempt the rheumy and unpurged air
To add unto his sickness?
—*Julius Cæsar, Act II., Sc. 1.*

Recent experiments and researches show that malaria is not found alone in the "humours of the dank morning" but that it results through the agency of mosquitoes. Brutus, however, must needs meet with the conspirators.

S. Pompeius. But all the charms of love,
Salt Cleopatra, soften thy wan'd lips!
Let witchcraft join with beauty, lust with both!
Tie up the libertine in a field of feasts;
Keep his brain fuming; Epicurean cooks
Sharpen with cloyless sauce his appetite;
That sleep and feeding may prorogue his honour,
Even till a Lethe'd dulness.
—*Antony and Cleopatra, Act II., Sc. 1.*

King. Haply, the seas, and countries different,
With variable objects, shall expel
This something-settled matter in his heart;
Whereon his brains still beating, puts him thus
From fashion of himself.
—*Hamlet, Act III., Sc. 1.*

As in Shakspere's day, now we advise a change of scenery and air for the invalid. A sea voyage is often sufficient to cure many obscure troubles while an absence from domestic and business cares is conducive to a return of health.

ETHICS.

Mrs. Quickly. Nay, said I, will you cast away your child on a fool and a physician?
—*Merry Wives of Windsor, Act III., Sc. 4.*

King. But may not be so credulous of cure,
When our most learned doctors leave us; and
The congregated college has concluded
That laboring art can never ransom nature
From her inaidable estate,—I say we must not
So strain our judgment, or corrupt our hope,
To prostitute our past cure malady
To empirics; or to dissever so

SHAKSPERE IN MEDICINE.

Our great self and our credit, to esteem
A senseless help, when help past sense we deem.
—*All's Well That Ends Well, Act III., Sc. 1.*

The King had evidently no confidence in quacks but was willing to trust himself to those of the "congregated college" or the educated physician.

Song. The sceptre, learning, physic, must
All follow this, and come to dust.
—*Cymbeline, Act IV., Sc. 2.*

The King, the scholar and the physician must all die; Shakspere places the physician in good company, certainly, and rightly so.

Cymbeline. Whom worse than a physician.
Would this report become? But I consider,
By medicine life may be prolonged, yet death
Will seize the doctor too.—
—*Cymbeline, Act V., Sc. 5.*

Pericles. Thou speak'st like a physician, Helicanus;
Who minister'st a potion unto me
That thou would'st tremble to receive thyself.
—*Pericles, Prince of Tyre, Act I., Sc. 2.*

Kent. Kill thy physician, and the fee bestow
Upon the foul disease.
—*King Lear, Act I., Sc. 1.*

MEDICAL JURISPRUDENCE.

Polixenses. Is not your father grown incapable
Of reasonable affairs? Is he not stupid
With age and altering rheums? Can he speak? hear?
Know man from man? dispute his own estate?
Lies he not bed-rid? and again does nothing,
But what he did being childish?
—*Winter's Tale, Act IV., Sc. 3.*

SHAKSPERE IN MEDICINE.

Warwick. See, how the blood is settled in his face!
Oft have I seen a timely-parted ghost,*
Of ashy semblance, meager, pale, and bloodless,
Being all descended to the laboring heart;
Who, in the conflict that it holds with death,
Attracts the same for aidance 'gainst the enemy;
Which with the heart there cools, and ne'er returneth
To blush and beautify the cheek again.
But see, his face is black, and full of blood;
His eyeballs further out than when he liv'd,
Staring full ghastly like a strangled man:
His hair uprear'd, his nostrils stretch'd with struggling;
His hands abroad display'd, as one that gasp'd
And tugg'd for life, and was by strength subdued.
Look on the sheets, his hair, you see, is sticking;
His well-proportion'd beard made rough and rugged,
Like the summer's corn by tempest lodg'd
It cannot be but he was murder'd here;
The least of all these signs were probable.
—*Part Second, King Henry Sixth, Act III., Sc. 2.*

Here again is shown the marvellous versatility of Shakspere, for no clearer or more exact description is given anywhere and with such detail of a case of sudden death, without apparent wound, bruise or the suspicion of poison.

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*Corse.

(*Concluded.*)

THE

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EDITORIAL.

THE EMPLOYMENT OF MARRIED WOMEN AND ITS RELATION TO PUBLIC HEALTH.

WHAT is known as sweated labor is more or less common in all large American cities. In New York City, however, such labor is more in evidence than elsewhere. The conditions of the tenement districts in New York when regarded from the standpoint of sweated labor are probably as bad as those of any European center of population. It would be superfluous to dilate upon the established fact that labor carried on under these surroundings, whether in factories or in the homes, is extremely prejudicial to the health of the workers as well as to those not thus employed—members of the family, principally children.

The men suffer greatly, but by far the worst is for the women, who generally assist in the work, and the children. Married women, mothers, suffer greatly, and through them their children.

A short time since an effort was made to trace the relationship of infant mortality to the employment of mothers, and the conclusion reached that the custom is most injurious in all particulars, being an important factor in the causation of the very large infant mortality which prevails and which is on the increase in not only New York City, but in other commercial centers. It requires no argument to prove the conclusion that the married woman who engages in such work, either at factories or at homes, injures her health and that of her children whom she must necessarily neglect, as well as her domestic duties. The wages for this class of work is usually inadequate to sustain the family, and the wife must also work as continuously as the husband and father, in order to support the family. There are many thousands of married women thus employed in New York and the injury because of compulsory neglect of growing children is almost beyond calculation. If such is true concerning the children who are compelled to live in the workshop, which is often also the living room of the entire family, what may be said of the unborn of those women soon to become mothers. The infant mortality in New York is very high, undoubtedly largely due to over-crowding in the tenement districts where the sweatshops and sweated labor is mostly carried on, where it is a struggle for existence because of scanty and poor food and distressingly poor hygienic surroundings. It would be highly instructive, as well as afford important data for prophylaxis in the mortality of the young, if the employment of married women in New York and other large cities were made a subject for inquiry and information.

The prevention of the high rate of mortality in the young is a subject for innumerable essays. While much has been done in New York to better the conditions, the employment of married women as a factor should be thoroughly investigated, and if it is found that it plays as important a part as we have indicated, measures should be taken to prevent such employment as far as possible.

Much stress is laid upon the danger of feeding raw milk, but does not hygienic surroundings play as great or greater role? Will the feeding of Pasteurized milk alone under such conditions as exist in the tenement districts suffice? Will not such milk become quickly infected in such houses? Undoubtedly much of the milk which comes to New York City contains pathogenic bacteria, and this should receive competent supervision; but for every such germ conveyed in milk into the home of the sweatshop, as here described, will be found hundreds, aye thousands, in the home where impure food, lack of fresh air and sunshine and bad hygienic conditions generally prevail.

RHEUMATISM OF CHILDHOOD.

THAT acute rheumatism is often preceded or accompanied by an attack of tonsillitis has been observed by many writers. The relation, however, between the condition of the tonsils and the development of the rheumatic attack cannot be fully determined until the bacteriology of the latter has been more fully worked out. Until this is done it will be well to keep in mind the possibility of a mistaken diagnosis in those cases of arthritis following tonsillar inflammation and disease. Almost every day some new evidence is brought forth emphasizing the importance of the tonsil as an inlet of infection which results in a number of pathologic conditions. We know that it is not an uncommon thing for a patient with tonsillitis to have aching limbs and pains about the joints. In the adults these aches and pains are rarely so marked as to be regarded in the light of rheumatism. On no better evidence, however, the young child, in which little is required to direct our minds rheumatic-wise, may be subjected to salicytic drugging.

The predominating bacterium, says J. R. Snyder, in the *Journal of the American Medical Association,* Feb. 9, 1907, in tonsillitis is almost always the streptococcus. Cole has proven experimentally that the streptococci, when injected into animals, produce arthritis and endocarditis. Packard and others have reported a number of cases of endocarditis following tonsillitis. In these cases there was no evidence of rheumatism. Morse reported four cases of nephritis, two of them in children, due to tonsillitis. To none of these latter cases was there any history of rheumatism attached. Moreover, Morse found these cases after a brief observation, and concluded, with every reason for being right, that such cases are more common than is suspected.

Keeping in mind the experiments of Cole, the chief organism concerned in tonsillitis, and the fact that in man arthritis, endocarditis or nephritis may occur either singly or combined, following tonsillar infection, we are ready, we think, to see how an apparently mild case of tonsillitis may be followed by a general, though perhaps moderate streptococcus infection. But unless we believe that there is no such specific disease entity as acute rheumatism, and that all cases classed under that name are no more or less than streptococcus infections, it seems that we must admit a considerable number of these cases of arthritis, with their complications developing in the wake of tonsillitis, as far from being rheumatic in nature as are the cases of acute pyemic arthritis of infants.

What makes confusion still easier is the fact that tonsillar infection, with its resulting complications, is like rheumatism, very likely to recur.

MECHANICAL VIBRATORY STIMULATION.

VIBRATION, a comparatively recent addition to mechanical therapeutics, is employed with reference to the accomplishment of primary condition, viz.: "Stimulation of the nerve or nerve centers concerned in and controlling the diseased organ, which are found principally in the spinal and sympathetic systems. This is attempted for the double purpose of (1) Stimulating and equalizing blood currents; and (2) stimulating secretion, excretion and the lymphatics." That it also possesses a marked anesthetic effect has been recognized. The sensibility of the pulp of a sound tooth may be overcome by holding a rapidly revolving spear-shaped drill in contact with it for fifteen or twenty seconds, so lightly as only to transmit the vibration.

Pilgrim has found that mechanical vibratory stimulation offers prompt and satisfactory results in neurasthenia, and other nervous disorders, in ocular affections dependent on anemia or hyperemia, in goitre, in scoliosis, pelvic diseases (exclusive of suppurative processes), in functional disorders of the digestive tract, pruritis, varicose conditions, chronic ulcers, neuralgia, and in the subacute form of rheumatism. He reports a case of pulmonary disease (incipient tuberculosis) treated exclusively by vibration in *Journal Advanced Therapeutics,* January, 1903. The patient, a young woman of 27 years, presented every indication of tubercular disease of the lungs, and was given a most unfavorable prognosis before coming under his care. Tubercle bacilli were not found in the sputum. Her weight was 118 pounds, she was languid, suffered much from dyspnea and rapid heart action. She was treated every alternate day, the course of treatment extending over a period of two months. At the end of this time, the patient was entirely free from cough, her appetite and digestion decidedly improved. Of the physical signs in previously affected lung, nothing remained except slight infraclavicular depression, no rales, while the character of the breathing was entirely normal.

If subsequent experiments shall establish the fact that mechanical vibratory stimulation may be relied upon in even a fair percentage of cases to maintain at normal standard the functions of digestion and assimilation, an important step will have been taken in the direction of the successful treatment of pulmonary disease. It is certainly worthy of, and deserves the serious consideration and investigation of the profession at large.

TULASE.

BEHRING'S NEW REMEDY FOR TUBERCULOSIS.

TULASE, the new remedy for tuberculosis devised and advocated by Prof. Behring is we learn, when in the pure state a clear liquid with an amber tint containing all the constituents of the bacillus tuberculosis (Koch). Prof. Behring groups the constituents into three principal divisions: (1) Lipoid substances soluble in alcohol, ether, acetone and chloroform. These lipoid substances are neutral fats and waxes. (2) Protein compounds extracted from the tubercle bacilli from which fat has been removed by distilled water and 10 per cent. sodium chlorid solution. These substances consist partly of nucleoalbumins and of globulins. (3) Proteids which make up the principal constituents of the tubercle bacilli freed from fats and protein.

Tulase is prepared by a very complicated process, which embraces treatment of the bacilli with chloral, by which an active constituent of the bacilli, designated by Behring T. C., is changed so that when tulase is administered either internally or by subcutaneous or intravenous injection the cells of the T. C. are decomposed and converted into a hypothetical substance designated by Prof. Behring T. X. The administration of tulase, according to Prof. Behring, confers immunity against tuberculosis and hypersensitiveness to Koch's tuberculin.

In the treatment of animals infected with tuberculosis it is recommended that the remedy be administered either by intravenous or subcutaneous injections. The dose recommended by Prof. Behring is 0.01 c.cm., which dose may be doubled at the second application only after a lapse of four days. In two to four weeks the dose is repeated, the same quantities being given as before, with an interval of four days between.

Tulase is put up in glass tubes of 5 c.cm. each, in both 1 and 10 per cent. solutions.

The claim is made that tulase is a substitute for tuberculin in the diagnosis of suspected cases of tuberculosis. Caution is given by Prof. Behring against too great expectations in results following the administration of tulase, as the most that should be hoped for the product as a remedy is that its early use in the young may protect against tuberculosis. Curative results are not to be expected when the lung tissue has been destroyed by disease.

TUBERCULOSIS AND DARK LIVING ROOMS.

During the ten years, from 1894-1904, says Juillerat, in the *Gazette med. de Paris*, Jan. 5, 1907, about 38 per cent. of all cases of tuberculosis in Paris occurred in 5,000 houses. In 259 of these buildings, sheltering a population of 25,938 persons, inspection disclosed 2,627 rooms with neither light or ventilation.

Of the cases of tuberculosis in these buildings the mortality was 7.98 per thousand. Neighboring buildings, with identical conditions in every respect except that the rooms were better lighted, did not give so large a mortality. Physicians should impress on their clients the supreme importance of sunlight to health, and persuade them to insist on having sunlight and an abundance of fresh air in their living rooms. If tenants shun dark, ill-ventilated apartments, landlords will in time find it more profitable to provide apartments with these necessary requirements. The pioneer work along this line, the educating of the people to the absolute necessity for sunlight and an abundance of good ventilation in living rooms must be done by physicians. A demand for such apartments in our cities will ensure their construction; a refusal to occupy such as do not meet these requirements will cause them to be replaced by such as do.

EGGS AS FOOD AND OTHERWISE.

The nitrogenous part of the egg contents is albumen, which is easily digested and assimilated. Lecithin is found in the yolk. The fat of the yolk which is largely lecithin while undergoing digestion, is converted into choline, a substance which may under certain conditions become of such quality as to cause symptoms of poisoning. The white of the eggs can be partaken of in all conditions and all ages without discomfort, either raw or cooked. Infants often will thrive on white of egg, mixed with water and a little sugar of milk with sometimes milk added, when they cannot digest other food of any kind. In invalids, when it is desired to increase the albumen content of the food, when there is gastric intolerance of other foods, or in case of dysentery, the white of egg will be found an invaluable aid to nourishment. Salt and lemon juice may be added to taste. When egg albumen is thus administered the mixture should be allowed to stand for a short time and then strained to remove any deposit or precipitate.

Eggs are also useful for other purposes than for food. For burns and scalds there is nothing more soothing than the white of egg spread over the wound. It is preferable to collodion or oil of any kind, and easily obtained. It protects the wound from the air, which causes extreme discomfort, and allays the smarting pain.

ALBUMEN AND MILK AS ANTIDOTES IN THE TREATMENT OF ACUTE POISONING BY CORROSIVE OR IRRITANT CHEMICALS OR DRUGS.

One of the most ideal and easily procurable antidotes in poisoning is albumen in the form of white of egg. It unites with most of the corrosive and irritant poisons, forming more or less insoluble compounds and, especially, is it suitable for treatment of poisoning by inorganic substances. The whites of four eggs mixed with a quart of lukewarm water is the best method of administering, and this should be followed by stomach washings, emetic and cathartics, as many of the compounds formed are soluble in an excess of albumen.

Milk is a very efficient substitute for albumen, the antidotal action being due to the presence of casein, albumen and free alkalies. It should be given in the same indications as for albumen, but unlike albumen is contraindicated in phosphorus and other poisonings where a fatty antidote is to be avoided.

AUTOMOBILES FOR PHYSICIANS.

The suitability of the automobile as a means of rapid and comfortable transit for the busy physician for use in both town and country is acknowledged. The advent of the motor driven carriage has, in fact, to a large extent, filled a long-felt want. The necessity of reaching a patient quickly is a frequent occurrence, and this can best be accomplished with a good car. There is not only greater speed while in transit, but valuable time is gained in that it is or should be ever ready. There is no horse to harness or to hitch, while many other annoyances are obviated. Perhaps the ideal automobile for the medical man has not yet been evolved, while the question of price is still one of great importance, especially to the country physician, but these can and will be met in time.

Objections are in evidence in those districts where the roads are not in good condition, rural mostly, but there is an increasing demand for good roads and they will follow. In and about cities and towns the roads are, as a rule, fairly good now and growing better from year to year.

A good machine will be the cheapest in the end and much more satisfactory. It should not be too complicated in its mechanism and of sufficient weight to ride comfortably; it should have a hood to be used in bad weather. Then, too, the cost for maintenance will be less with a good machine than in one cheaply constructed. With such a motor there will not be the necessity of expert driver; any bright young man will soon become familiar with its working and be able to do most of the adjusting and maintaining.

Care should be exercised in selecting a machine and not too much left to the glib salesman. Find out from those with experience (not the interested salesman) what is wanted and then get that particular one, if any. When the roads are fairly good and the country pretty thickly settled it should be not only a much quicker and comfortable means of travel, but a profitable investment, as it will determine the owner modern and desirous of serving his patients in all respects to the best of his ability.

ONE YEAR OLD TO-DAY.

One year old to-day, you say? And we are met to offer our congratulations, to make our obeisance to this little bundle of an unknown potentiality, to plant the first milestone in his life. Let us trust that there will be many, very many more to plant and that he may grow in stature and intellect until he has attained a full measure of man's possibilities.

We know not what the future promises for this, the parents' first born, what lofty development of character, what rare achievements of thought, what line of action is vouchsafed that shall leave its impress upon human hearts and minds. It is not given us to measure the limit of the attainments contained in such a wee bundle of God's handiwork. As anxious parents, we would sometimes approach the veiled curtain and strain our eyes to penetrate the darkness beyond; we would converse with the future, implore her to reveal to us a glimpse of her intents, tell us a little of the good she will bring to our loved one, but she lists not. Yet in our waking dreams we see the shadows lengthen to the active and restless schoolboy, then to early manhood, where life's work begins in earnest, where mind and body broaden and spread out, giving promise of coming achievements. A little further on we see the earnest and active man meeting the world with a stout heart, a fearless eye, head erect, well poised, battling for those he loves, smile and sunshine ever about him, a helping hand, a generous deed here and there, the hearty hand clasp for friends tried and true, and here we choose to leave him with ever growing confidence that he will achieve his destiny, be the one around whom youth, middle age, and those who are passing to their inheritance shall cling.

It may not be our privilege to assist in the placing of another milestone in this young life, but we can wish him no greater happiness than to be the recipient of as many blessings at each as are his to-night.

In days to come, when loving lips shall tell of this the first anniversary of his advent among you, it will please him to know the earnest wishes here expressed for his future well being and success. How the loving mother exhibited him to admiring friends, the proud father called attention to his wonderful precocity; how he was passed from one to another seemingly conscious of the occasion and the importance of which he was the center.

Through all the coming years which I sincerely trust may be for him many and eventful—for the sum of life is made up of events and events form character—I wish him a full measure of all that shall in any way contribute to his health, happiness and prosperity.

Let your life's motto be:

"Whatever you are—be that;
Whatever you do—be true;
Straightforwardly act—
Be honest—in fact;
Whoever you are—be You."

AU REVOIR.

"We must lay his head to the East; my Father hath a reason for it."

Being a Christian he is entitled to this distinction: though he be called in the prime of life and hastily, the end was as he would have wished it. Who of us does not want to begin the long journey quietly, without pain or distress: the evening pleasantly spent with those we love best, for the morning brings a new experience. It is always well to be as ready as was he, and this should not be so very difficult, for accounts can be kept at near a balance, wishes can be made known; so what more than to await the coming of the unknown with faith. For him who perhaps brought more smiles than any of us, that did less of harm than the average man of 60 years of life, there could not have been the dread to embark on another voyage, to an entirely unknown haven, borne by forces which we are totally incapable of understanding.

We must, like him, be content to go to sleep and trust to an awakening which will insure compensation for ourselves and a reunion of that immortal part which for a better name we designate spirit.

With head erect, hat in hand, we bid you, au revoir.

"We cannot always keep
The hands of friends, nor even reap
Our grain beside them, or walk near
That we may speak across, from path to path,
and hear
The words that they would say: we do not see
The ways they go, nor be
Quite sure if we would know
Should they exchange this path below
For one more bright, or how, or where.

Just now and then
We look into their eyes: from place to place
We meet and look upon a face
That we have carried, as we take
The dream of some sweet flower which bloomed
to make
A pathway bright, and so
We carry onward as we go
The influence of so many hours,
Of spirits that draw close to ours,
To come no more for aught we know,
Yet leave a vision where they stood—
A dream so bright, so strong, so good—
That we are richer every day
Because we travel a haunted way."

PHYSIQUE AND TUBERCULOSIS.

An hereditary causal relation to pulmonary tuberculosis may be predicted of mouth breathing and deficient physique, says Rivers, *British Med. Journal.* He gives the following reasons:

Both conditions prevail to a much greater extent among consumptive males, quite independently of their disease, than among a comparable series of non-tuberculous men; whereas some causes of mouth breathing, as also physical build, are known to be hereditary, a family history of phthisis is much more often given by those who are mouth breathers or of deficient physique—whether they be healthy or phthisical—than by others; the physique incidence of mouth breathing in phthisical subjects probably differs from that in the non-tuberculous; consumptives of a naturally good height weight ratio fall ill, on an average, at a later age than do others.

LONDON LETTER.

A VERY important conference has been held recently in London to discuss the question of mothers of the lower classes drinking in the public houses and frequently taking their infants with them. The *Lancet* some few months ago contained two articles dealing with the increase of drunkenness among women in England, and especially with this phase of the matter as regards London. Of course, however, the fact that drinking was prevalent among women in Great Britain has been well known and widely discussed for many years. The conference just held in London treated of the connection between women drinking and taking their babes to public houses and infant mortality. The immediate *raison d'être* of the conference was the publication in the *Tribune,* an important lay paper, of a series of letters from one of the most brilliant English journalists, George R. Sims, on the subject of women and babes in public houses. Although these letters were somewhat lurid and sensational, the facts contained in them were true. They created a great impression, so much so, indeed, that a conference was called, which took place at the Tribune office, on Monday, March 4. The meeting was attended by distinguished medical men from all parts of Great Britain, as well as by eminent persons of all classes. Sir Thomas Barlow, the well-known London physician, presided, and there were also present Sir Lauder Brunton, Sir Victor Horsley, Dr. Sandarth, Dr. Robert Jones, Professor Sims Woodhead and Dr. Mary Scharlieb, together with sixty other prominent medical men. Sir Thomas Barlow, after referring to the decrease of the British birth rate and to the increase of infant mortality in the United Kingdom, said that the causes of infant mortality were multiple, but that one of the chief causes was that women of all ranks of society were ceasing to nurse their children. He thought that much could be done to improve the situation, and especially as regards the matter from the standpoint of drink, by improving the methods of education, by teaching hygiene and temperance and, first of all, by teaching the teachers and giving them carefully regulated knowledge on the subject. Sir Thomas Barlow also recommended that attempts should be made forthwith to introduce legislation to prevent women from taking infants in arms to the public houses and frequently giving them gin or other strong drink.

Sir Lauder Brunton said in part that his experience as physician at St. Bartholomew's Hospital, reaching over several hundred thousand cases, had shown him that the ordinary rule which obtained was: mother, a bit and a sup; baby, a bit and a sup; and generally the sup consisted of gin or gin and water. It must be quite evident that this process of slow poisoning destroyed the child, and would say body and mind, were it not that very often the baby is destroyed before the mind has had time to develop. At the same time, however, there are children who survive and whose bodies grow up, but they grow up maimed and stunted. They grow up so that they are unable to follow any definite course of life. They turn out wastrels, unemployed, and they come upon the rates and, more than that, they tend to swell the criminal classes. Dr. Robert Jones, resident physician at the large lunatic asylum at Claybury, near London, said that he was connected with the seamy side of life, with the human derelicts whose unfortunate position is mainly due to alcohol. He wished to make the suggestion that what is needed above all is temperance legislation. A very large number of speakers from all grades of life took part in the discussion, and although no definite agreement was reached as to the steps to be taken to prevent women from frequenting public houses with infants in arms, yet the sense of the meeting was strongly in favor of appealing to legislation for the enactment of restrictive measures.

It would seem that Prof. Koch has once more made a statement which is not altogether justified by the facts of the case, or rather, perhaps, it may be said that his statement is premature. Some little time ago Dr. Koch, who has been investigating into the cause of sleeping sickness in British Africa, announced that he had discovered a cure for the disease in atoxyl. Prof. Kopke, of the Lisbon School of Tropical Medicine, has republished, in French, an interesting article on the treatment of sleeping sickness by atoxyl and the benzidine colors, which first appeared in *Medicina Contemporanea.* This article by no means bears out the assertions made recently by Dr. Koch to the effect that atoxyl is a specific for sleeping sickness. Prof. Kopke says that if the patients treated by atoxyl are followed up long enough death is the eventual result; all that can be said is that their lives may be somewhat prolonged by the employment of atoxyl.

It is stated in the *British Medical Journal*, March 16, that the Municipal Council of Prague has issued an edict forbiding ladies to wear trains to their dresses when walking in the streets. An editorial in the *British Medical Journal* referring to the matter says "that sumptuary laws of a similar kind have been passed before in America and elsewhere; the results, however, have been such as to leave the less sanguine observer somewhat dubious as to the outcome of the latest endeavor to induce the fair sex to vary the proverb and cut their coats not according to their cloth but according to the dictates of hygiene." Whatever may be the outcome of the edict of Prague, at least it cannot be doubted that it would be to the benefit of everybody if ladies could be induced to wear short skirts when walking in the streets, Apart from being in some degree injuriously prejudicial to the health of the women who wear them they are in other respects a public menace. Long skirts collect dust and dirt, which are brought into houses, churches, theatres and other buildings, and although these may not contain pathogenic germs, dirt in itself is unhygienic.

An official return was issued on March 2 showing the number of British soldiers and sailors killed or wounded in action during the six years ended Dec. 31, 1903. It covers all wars or warlike operations undertaken during that period either by the Imperial Government or by Chartered Companies, and it gives for killed in action or died of wounds a total of 8,678 officers and men and an aggregate number of 23,773 wounded.

The Glasgow authorities have determined to discontinue publishing daily reports concerning cases of cerebrospinal meningitis, and to make statistical returns, at the same intervals, as in respect to other diseases. The number of cases of the malady in Glasgow, though larger than anywhere else, is really not great.

In the *Nineteenth Century and After*, for March, there is an article by Mrs. McFayden in which the limitation of births by artificial means is boldly recommended. This is the first time, so far as I am aware, that a woman has written in a widely circulated review in favor of abortion. Her argument appears to be that nothing but the regulation of the birth rate can make early marriage possible, and that therefore the question is as broad as it is long. If women do not marry early they will not in any case have a large family, and if they do marry early they cannot afford to have a large family.

OPSONINS.

In a paper on the opsonic theory and its application to medicine and surgery, *British Med. Jour.*, Ross reaches the following conclusions: 1. These substances, so essential to phagocytosis, do not act upon the leucocytes (as a stimulant to the leucocytes, for example), but they combine with the micro-organisms and prepare them for phagocytosis; hence the name *opsonins*, from *opsono*, I cater for. The conception of their mode of action is that the opsonins are carried in the lymph to the nest of microbes which are responsible for the morbid process; that they chemically unite with the micro-organisms, and that then, and not until then, the leucocytes have the power of enveloping and destroying these micro-organisms. Thus it follows that the amount of phagocytosis which is observed is a measure of the quantity of opsonins present in any particular plasma, and does not represent the vital activity of the leucocytes. 2. The opsonins in a normal serum are almost completely destroyed by heating for ten minutes at 60° C. 3. The opsonins have been shown to be distinct from the bacteriolysins, agglutinins, and the antitoxines. Certain generalizations have emerged from the investigation of numerous cases. 1. If the bacterial infection be strictly localized, the opsonic index of the blood as concerns the particular microbe causing the infection, is below normal. 2. In infections which are not strictly localized the opsonic index will be found high at one time and low at another; that is, the opsonic index in systemic infections tends to fluctuate from high to low. This characteristic is well shown in cases of acute pulmonary tuberculosis. In early or advanced cases that have been in bed for some time, the index is low. 3. Normal individuals, not the subject of any bacterial infection, present a constant opsonic power to the various pathogenic bacteria. In the diagnosis of obscure tubercular conditions, the opsonic method is of great value. Grace-Calvert thus sums up our present knowledge regarding the opsonic index in pulmonary tuberculosis. 1. In slight early cases it is above normal. 2. In acute cases it fluctuates greatly from day to day. 3. In chronic cases it is below normal. 4. In sanatorium cures it is variable.

OPSONIC TREATMENT OF SURGICAL DISEASES.

A. P. **Ohlmacher**, Detroit, thinks that possibly Wright's comparatively simple theory of opsonins and its practical application has been rendered needlessly confusing to the average practitioner and gives his own experience with the use of bacterial vaccines, preferably autogenous, in various surgical conditions. While not neglecting to take the opsonic index when practicable, he was compelled to rely largely on the clinical manifestations as a guide to the repetition and size of dose, always endeavoring, of course, to give the injection at the right time, when the positive phase is beginning to fall and not in the negative phase. As Wright points out, the great causes of failure in previous tuberculin treatment was the giving of too large injections and too frequent repetition of the dose, causing a marked negative phase and keeping it up. Ohlmacher thinks that his results might have been even better than they were had he been able to make more systematic opsonic determinations, which often show a fall of resistance before the symptoms indicate it. He has had remarkable success in various types of staphylococcus infections; obstinate cases of acne and furunculosis, impetigo, palmar abscess and in a very distressing case of what had been called psoriasis, but which he thinks was an extraordinary case of staphylococcic dermatitis, and which yielded rapidly to opsonic treatment with an autogenic culture of staphylococcus aureus. He had also satisfactory results with a case of very annoying bladder infection from the colon bacillus, similarly treated after other treatment had failed. A very striking case was one of sacculated pneumococcus empyema, in which perfect recovery occurred in seven days after two injections following a small puncture. Ohlmacher believes that even the generally condemned method of aspiration would have been sufficient in this case when reinforced by opsonic therapy. Owing to delay in obtaining Koch's tuberculin TR., the standard vaccine for tuberculous cases, his experience with tuberculosis has as yet been limited, but he has been able to obtain a strain of gonococcus culture with which he has had striking success in the treatment of gonorrhea and its complications, including gonorrheal rheumatism and conjunctivitis. From what he has already seen, he is prepared to say that with proper artificial autoinoculation, we can obtain constitutional and local improvement in many subacute and chronic affections entirely beyond anything previously possible in medicine. He believes that we have in this method of bacterial inoculations therapeutic agents of a specificity and potency beyond anything heretofore employed in the treatment of disease, except, perhaps, the diphtheria antitoxin.—*Journal American Medical Association*, Feb. 16, 1907.

THE PURE FOOD LAW.

Tetanus Produced from Gelatin Capsules.—Cold Storage Meats Limited to Three Months.—Year Old Quail.

Harvey W. **Wiley**, chief of the Chemistry Bureau of the Department of Agriculture, testified concerning the deterioration of foodstuffs in cold storage before the House Committee on Agriculture, whose hearings on the Agricultural Appropriation bill have just been made public.

The cold storage warehouses are at Dr. Wiley's disposal in Washington, and he gave the results of experiments with all sorts of foodstuffs.

"Milk begins to deteriorate right away and so does cream," said Dr. Wiley. "Eggs also begin to deteriorate immediately. Fruit is improved and sometimes continues to improve for three months. Meat improves up to about six or eight weeks, but after three months it begins to go down. I do not care how hard it is frozen."

When asked for further explanation of the deterioration of meat frozen in cold storage, Dr. Wiley said:

YEAR-OLD QUAIL TOO OLD.

"We find that meats do not taste as well and do not smell as well, and every time the jury can pick that which has been kept over three months. Take our quail. We have quail a year old and we have a fresh quail cooked at the same time. We cook them just alike and every time the jury can pick out the frozen one blindfolded."

Dr. Wiley stated that most foods improve when properly kept a short time, but he said that the object of the experiments is to inform the public, and particularly the cold storage people, how long they may safely keep food in storage. He said that as yet he has been unable to determine whether drawn or undrawn poultry keeps better.

Dr. Wiley said that the oysters opened and shipped in buckets should be prevented from entering interstate commerce, as they are dead.

"An oyster is dead an hour after it is opened," said Dr. Wiley, "and is not good. It loses its flavor."

In response to inquiries from Representative Haskins as to the advisability of freezing oysters to preserve them for shipment, Dr. Wiley said:

"Oh, they should not be frozen. That ruins them, and as soon as they thaw they are dangerous." He urged that oysters be shipped aiive and in the shell. Dr. Wiley said the oysters sent out in tin cans are all right.

GELATIN MADE OF HIDES.

Gelatin was denounced by Dr. Wiley, who said of it:

"It is made from the scrapings from hides. These hides that smell to heaven are treated and trimmed and these trimmings are used to make gelatin. The marine hospital service found tetanus germs in gelatin."

Dr. Wiley said the gelatin factories are the dirtiest in the world; that the hides used are treated with alkali, which is rubbed into them for shipment. He said this gelatin is sometimes made in glue factories, and that stuff that is not fit for glue is made into gelatin.

In reply to a question from Representative Baughn, Dr. Wiley said:

"Gelatin is used in ice cream and candies and for making capsules that you take your medicine in." He added that there is no objection to gelatin if properly made, and that there is plenty of wholesome raw material to make it of.—*Pacific Medical Journal,* February, 1907.

THE FACTORS OF SAFETY IN THE ORGANISM.

S. J. Meltzer, *Jour. A. M. A.,* noticing the tendency of some writers to emphasize the economy of nature in the animal organism, both as to material and energy, points out that the factor of safety in the body—the surplus above that which is demanded—is far greater than that which is required in artificial structures. For example he refers to the bilateral organs, each of which is more than capable of supplying the place of both, the kidneys, the ovaries, the thyroids, the adrenals, etc. In the non-paired organs the same prodigality of tissue and functional capacity is apparent, some organs possess at least twice as much tissue as a maximum or normal activity would require, and in other organs, especially those with an internal secretion, the margin of safety amounts sometimes to ten to fifteen times the actual need. He does not think it probable that tissues are usually inactive, such must be the exception, but they work normally only a fraction of their capacity. The power of self-repair is moreover a safety factor far beyond anything in human-made machines. While noting some partial exceptions, the rule seems to be that the organs of the body are built on a plan of a surplus of structure and energy and Meltzer therefore is inclined to question the theory advanced by some that a minimum, say of proteid ingestion, is the optimum or ideal. There are no facts that support it, and on the other hand, there are facts that point the other way, such as the abundant secretion of proteolytic enzymes and the excessive capacity of the digestive tract for the absorption of proteids. These seem to be fair evidence that Nature intended this surplus of material and capacity to be used. The function of supply of tissue and energy by means of proteid food should, he holds, be governed by the same principle of affluence that has controlled the entire construction of the animal for the safety of its life and the perpetuation of its species. In conclusion he remarks that the factors of safety have an important part in the process of natural selection. The species best provided with a surplus of structure and energy, and thus fitted to meet emergencies, are most likely to survive in the struggle for existence.

PROTECTIVE FUNCTION OF THE LIVER AGAINST INTESTINAL TOXINS.

G. A. Petrone and Aurelio Pagano, *La Presse Medicale,* (*Med. Rec.,*) describe the functions of the liver as protective against the vegetable alkaloids, many mineral poisons, foreign substances that occasionally find their way into the intestine, such as ammonia and the aromatic substance due to putrefaction of albuminoids, peptones, albumins, soaps, and alcohol. Also against saturated solutions of bicarbonate of soda, sulphate of soda, chloride of soda, adrenalin, sulphuric ether, chromic acid, and phosphorus. It protects against some microorganisms, and does not against others. It acts against tetanus toxin, cholera, bacillus, coli, alcoholic extracts, putrid materials, and alcohol typhoid materials. The action against bacteria is due to phagocytosis exerted by the epithelium of the blood-vessels, according to some. Others refer it to the amount of glycogen contained in the liver. The authors have made experiments to ascertain whether there is a protective action against the ordinary intestinal toxins. The toxic substances were injected into a mesenteric vein and into a peripheral vein and the results compared. The results lead them to conclude that the liver exerts a marked protective action against ordinary intestinal toxins. The first barrier against these toxins is furnished by the walls of the gastrointestinal tube, and many of them are thus removed. Those that are left meet a second obstacle in the hepatic gland, with its rich circulation and innumerable endothelial elements. The lung then acts on those that have escaped the liver, and last of all the blood by means of circulating leucocytes continues the action.

A NEW PROPOSITION WITH REGARD TO THE USE OF PHOSPHORUS IN THE NOURISHMENT AND TREATMENT OF CHILDREN.

In spite of the deleterious and sometimes fatal effects produced by the administration of phosphorus, Manchot, *Muenchener Medizinische Wochenschrift*, (*N. Y. Med. Jour.*,) succeeded in obtaining great improvement in two children by the administration of this drug in minute doses in butter and by subcutaneous injection. He finds that hemp seed, particularly that from Russia, contains a much larger proportion of phosphorus than most seeds, and that it is a very useful food for children who are rhachitic or have other nutritive disorders.

THE TEACHING OF DIETETICS.

One of the defects of the curriculum, as presented in our medical schools, is the absence of any systematic instruction on diet for the sick and convalescent. While the chair of physiology may be occupied by an able man, he learnedly discourses on the classification of foods; and while the knowledge of the composition of proteids, carbohydrates and fats are essential, the application of the knowledge is not taught anywhere. Students become conversant with the science and not with the art of dietetics. Not a day passes in the life of the busy practitioner when an intimate knowledge of this art is not a desideratum; in fact it is a necessity. Prognosis may depend on it; our entire medical career is influenced by it. Its importance cannot be overestimated.—*Lancet-Clinic.*

TREATMENT OF HEMORRHOIDS.

In my experience, says A. Pearce Gould, nothing affords such comfort to patients suffering from piles as the daily use of a small enema. I generally prescribe, he says, not more than three-quarters of a pint of tepid water, to be gently injected into the bowel every morning. The result is that the act of defecation is accomplished extremely quickly, and the motion is passed with the least possible injury to the anus. I have not seen any ill-effect from the daily use of an enema of the size I have mentioned, continued even over a long period; on the contrary, I have known patients who have suffered considerably for years entirely relieved by this treatment alone. A soft flexible tube should be fitted over the ivory or metal nozzle of the enema apparatus.

DIET IN DIABETES.

Many deviations from the hard and fast lines of dietetic treatment are required in practice. Nevertheless, reduction in the glycosuria to its lowest possible limit must be the goal that is never lost sight of. Deviation from this rule can be allowed only when the dietetic measures taken to reach it are evidently producing worse evils, and even then we must hope to return at a later date to the more stringent measures. The practitioner who has not this end in view cannot be regarded as providing the proper treatment for cases of diabetes. Only in quite hopeless cases may such an aim be forgotten.—Professor van Noorden.

STRABISMUS IN CHILDREN.

According to Mr. Priestly Smith, it is important to remember that the sight of a squinting eye depreciates, and that, therefore, delay in treatment is dangerous. The first step is to estimate and correct the refraction, and there is no difficulty in teaching even the youngest child to wear spectacles. In addition, the defective eye must be educated. Hence the sound eye should be kept covered with a pad of wool arranged under the spectacle glass. The notion that treatment should be delayed until the child is a certain age is often responsible for complete loss of vision in the squinting eye. Operation is indicated only after failure of the above plan.

ANTISEPTIC MEASURES IN PTHISIS PULMONALIS.

Before resorting to drugs, Dr. H. Thomson believes sponging and the application of cold compresses should be given a somewhat extended trial. The temperature should be taken every three hours, and when a rise to or above 102° F. occurs, the surface of the body should be sponged with ice-water and a cold compress applied over the thorax and abdomen. Niemeyer's pill of quinine, digitalis, and opium may at the same time be taken three times a day.

NEMATODES AND APPENDICITIS.

Capt. H. W. Whate, M.B., reports a case in which all the classical symptoms of appendicitis disappeared after the patient had passed *per anum* twenty-four large round worms.

SYPHILIS AND HEART DISEASE.

Gummata of the heart are rare, says Dr. Hale White, but a large proportion of the cases of fibroid diseases of the heart depend on syphilis. The fibrosis is found principally in the interventricular septum, and the condition carries a peculiar liability to sudden death. Aortic valve disease occurring apart from mitral disease may be attributed to atheroma or strain or syphilis. Hence, when this condition exists in women it is strong evidence of syphilis. Rheumatism may be suggested as an alternative diagnosis, but it is rare for the aortic valve alone to be affected by rheumatism.

TREATMENT OF ACUTE RHEUMATISM BY INUNCTION.

Bourget has devised the following formula:

℞ Betul-ol,
Adipis lanæ hydrosi, } āā.........10 parts.
Ol. terebinthinæ,
Adipis............................80 parts.

M. To be applied, with friction, to the skin, particularly around the joints affected.

The part is then wrapped in several thicknesses of flannel, and is surrounded by waterproof tissue, which is kept in place by a roller bandage. Betul-ol (chloromenthol-methyl-salicylate) alone may be used in a similar way (3 grammes applied on a compress), and is better for this purpose than the natural oil of wintergreen which produces some irritation of the skin.—*Journal de médicine interne,* January 15, 1906.

UNEQUAL PUPILS.

Inequality of the pupils, writes Dr. Harry Campbell, is no doubt sometimes a congenital peculiarity; but, unless explained in this way, its existence, even as an isolated fact, justifies a suspicion of commencing cerebral nervous disease. That disease may be tabes dorsalis, or it may be general paralysis of the insane.

GLYCOSURIA.

Dr. Chas. H. Ralfe says that patients who have once had sugar in their urine should be carefully warned, after its cessation, never to touch sugar in any form; and in such matters as bread, potatoes, fruit, etc., to be exceedingly moderate—in fact, never to indulge in any two of these at one and the same meal.

HE GAVE AWAY "HALF HIS TREATMENT."

"One doesn't have to be worth a great deal of money to make costly gifts," said a man who goes about the streets with wide-open eyes. "I've been interested in a little street urchin that I've met going to and from the hospital on the street cars. There was something wrong with one leg—he had met with an accident, I believe—and he was receiving treatment through the free clinic. He had a ticket entitling him to treatments, or something of that sort, and he was never tired of praising 'his doctor.'

"One day I saw him on the car with a very shabby man, whose arm was in a sling. Tim nodded to me brightly enough, but avoided conversation. When I met him two hours later, he was alone.

"'How is the leg?' I asked.

"'Gettin' 'long first rate. See that fellow with me on the car? He got an awful arm, but I know my doctor can make it all right, and I asks him if he'd give that fellow half my treatment! He didn't want at first, but bime-by 'greed; so that's where I was takin' him. Me? Oh, I'll get along somehow. Why, mister, that man's got a wife and three little girls to take care of!'

"No, I don't suppose the little fellow will be allowed to lose any part of his cure, but he doesn't know that; and think of the gift he is making!"
—*Selected.*

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by **Franklin W. Barrows, M.D.**

CARING FOR THE CHILDREN.

One of the finest fruits of our civilization is seen in the growing and expanding of our interest in children. Legislatures and courts, schools and churches, and all the institutions of society are applying themselves as never before to the task of improving the conditions surrounding child life. We have learned that justice to the child is the surest kind of justice to the man and woman.

In this good work the physician and the nurse are taking a very large share. There never was a time when greater intelligence and skill were devoted to the safeguarding of the child's health, physical and mental, than to-day. With this development of our interest in children there has come a gratifying increase in our knowledge of the diseases of children and the best means of preventing and treating them. We are receiving new light continually on this most important branch of medicine and our art is making substantial advancement beyond the lines that bounded it only a few years ago. To confirm this statement one needs but to open the latest book on pediatrics or to visit any good hospital for children.

While the nursing of children is usually regarded as a specialty it is most unfortunate that all general nurses do not take pains to become as competent in this branch as in any other. Too often the nurse who performs most of her work creditably has the misfortune to bring reproach on herself and on her profession by her awkward and misdirected efforts in caring for a sick baby. On the other hand, the nurse or physician who "understands children," and does right by them, quickly wins a way to the affections of the whole household.

Readers of the Gazette who feel that they are defective in this line of work, or that they need to brush up in order to keep themselves bright in the presence of their wee patients, will derive great satisfaction from the series of articles which begins in this number and continues for several months. The author, Miss Minnie Goodnow, has had unusual opportunities to familiarize herself with the best methods in the care of children. She has taken the post-graduate course in the General Memorial Hospital, of New York, and holds the diploma of the New York Infant Asylum. For four years she was the Superintendent of the Woman's Hospital, of Denver, where she enjoyed excellent facilities for the study of children, as well as women patients. At the present time Miss Goodnow is the Directress of Nurses in the Milwaukee County Hospital, at Wauwatosa, Wisconsin. Her experience has qualified her to write with authority on this particular specialty in nursing, and to select with discrimination the details that other nurses most need to know.

Our readers are generous in praising the Gazette for those things that bring them pleasure or profit, as is shown by the many letters that have come to us bearing compliments and thanks. We would like to have our friends continue this fine habit of encouraging the good that is in us. We would like far more to receive from our friends the word of kind criticism or the question that will come to their minds and is too often suppressed before it has a chance to reach us. In so far as this series of articles is concerned, you can do no greater service to the author and her many readers than to write out your questions and comments and send them along.

PERILS OF POLLUTED ICE.

SANITARY science has taught us to beware of the filth and germs lurking in ice, and many outbreaks of epidemic disease have been attributed to food contamination by the use of infected ice. The March *Bulletin of the New York State Department of Health* contains a discussion of this question which has the effect of reassuring those who have been careless or skeptical in their regard for the present warnings of our sanitarians. The conclusion of this article seems to be that ice as it is ordinarily harvested and stored before delivery to the consumer undergoes a reduction of 99.95 per cent in the number of bacteria present; in other words, the natural purification of water by the process of freezing and storage is about 200 times as efficient as the best municipal sand filters on which modern civilization depends for a pure water supply.

How Dame Nature proceeds in her benevolent work of purifying water by freezing is briefly described in this article. The records of epidemics said to have been due to polluted ice are also discussed, with the result of casting very great doubt upon ice as a cause in a single instance. And so, we are told, while there are numerous conceivable ways in which ice may become infected, the actual danger, in most cases, is very remote and hardly worth considering. These and other possible dangers are analyzed and for the most part explained away.

We have said that the article is reassuring—but in this sense only, viz., that it explains why the many careless consumers of ice have not been afflicted with one great epidemic after another. There remains abundant reason why the cleanly and cautious housekeeper, and, most of all, the responsible guardian of the sick, should take great care in handling ice and using it in the preparation of food and drink.

That we may the better appreciate the service of the State Department of Health in issuing this warning, and "lest we forget" in the heat of the coming summer, let us see what the report says about the actual and tangible dangers in our ice supply:

> The first of these dangers is the one due to the harvesting of ice from polluted sources. This ice may be taken from ponds or rivers which have been polluted by sewage and may contain the germs of typhoid fever and other diseases.
>
> Secondly, ice may become contaminated during the period and operations of harvesting by filth which may have come from infected sources. The hands and feet of laborers or the hoofs of horses may be the channels by which infection may be transmitted to the ice even after it has been taken from the water, and notwithstanding the purity of the water.
>
> Thirdly, ice may become infected from surface drainage from the adjacent lands, during thaws. The water which has thus flowed over infected fields that may have been fertilized or otherwise infected may be carried on to the ice and settle and be frozen into it.
>
> Finally, ice may become infected from the exposure and handling incident to distribution of it in our cities and even within our homes. This may be by far the most serious mode of infection, for it leaves the time interval, between infection and transmission, too short for any counteracting influence of cold to be exerted.
>
> The opportunities afforded for infection during the distribution of our ice supply are many. They start with the infection by the icemen in handling the ice, and include infection from the air of our cities, the dirt and filth gathered while the ice is deposited upon pavements and sometimes in streets, the dirty ice broom, the water with which it is washed and, finally, the handling just prior to placing in cooler or ice chests. To be sure, these sources may be largely avoided and wholly eliminated by final and careful washing, but here, as in all our daily habits in the preparation of food, sanitary precautions are not always observed, and the dangers may often be more real than apparent.
>
> With this array of possible means or channels of ice infection before us, there is little wonder that alarm has arisen at times, and

> that the amateur has had an opportunity to create consternation in the minds of the thinking but misinformed public. Or, what is more to be wondered at, that many serious epidemics have not occurred of a severity to carry off more of our enlightened race, instead of only the few epidemics that history records as having actually occurred.

Finally, in alluding to the fact that scientific research has robbed polluted ice of many of its supposed terrors, the report gives this further admonition, which every sensible person would do well to heed:

> These facts, while emphasizing the great immunity bestowed by nature, point, however, to the real dangers of ice infection with renewed force. There still remain for instance the infection due to handling and distribution; to surface pollution due to the pernicious practice of flooding ice to get a thicker crop; to surface pollution due to rains and melting snow washing pollution from side slopes on to ice that has already formed; and finally to the dangers of artificial ice when this has been manufactured from contaminated water and delivered to consumers before the natural processes of purification have had an opportunity to become active or effective.
>
> It is for the removal of some of these possible or residual dangers, notwithstanding the high efficiency of natural purification, that regulations looking to the conservation of our ice supplies become desirable if not necessary. There are unscrupulous people in all trades, and it needs no proof to show that ice harvested from the vicinity of sewer outlets would be loathsome if not dangerous. In fact, even if there were no danger from such a procedure there would still be an æsthetic objection to organic and other filth associated with polluted waters that make incumbent the forming of laws for the protection of our ice supplies.

CHARACTER IN THE NURSE.

We are fortunate in being able to present, on another page, the address delivered to the nurses of the Massachusetts General Hospital by Rev. John Hopkins Denison. The speaker is a staunch friend of the nursing profession, and he shows his profound respect for their work by the admonitions which he addresses to them. Readers of this stimulating article will be impressed with the truth that the strength of the nurse lies not alone in her knowledge and skill, but also, and to a large degree, in her character. And character is a gift that the schools can neither give nor take away.

The school may train early and train late with much care and solicitude, and when the test of experience has shown who are the best products of the school it will usually be found that their training was well under way several generations before they were born.

The matron or superintendent who has the responsibility of choosing and rejecting applicants for the training school course is most fortunate if she has the gift of reading character. And it is a mistake for any set of managers to hamper her by rules and arbitrary regulations in the free use of her best judgment when it comes to admitting or retaining probationers. A little preliminary schooling, more or less, or a previous period of service as a common domestic, are matters of small import in comparison with the priceless equipment that comes only with a sterling character. One of the best and most successful nurses whom we ever knew went directly from years of service in the kitchen and entered the training school of a famous hospital. She has been a credit to her school from that day to this. But if she were to try to-day to enter the same school under the same conditions she would be rejected because of her previous condition of servitude and because of deficient education. For the sake of her character and that of many another worthy girl who may aspire to become a nurse we would humbly suggest that more power and grace be given the matron to forgive the first and amend the second of these disabilities while the girl has a chance to display, during her probationary period, those qualities of mind and soul that come harder and are worth more than an extra year or two in the high school.

THE SURGICAL NURSE.

Our thanks are due to Dr. Thomas for his excellent article on surgical technic, which we publish on another page. While he deals with the requirements of the hospital nurse, he has made his ideas of great service to surgical nurses in the home as well as in the institution. The woman who finds herself left quite alone in her care of a surgical case, with the visits from the doctor few and far between, needs a head well stocked with ideas in order to meet the minor emergencies that may arise. For this equipment nothing is more reliable than the practices and precepts of the well managed hospital. Happy is that nurse who has learned these lessons from actual experience. But in keeping up with the times the best of us have abundant uses for such practical articles as that by Dr. Thomas.

THE ANTI-REGISTRATION CAMPAIGN IN PENNSYLVANIA.

THE acrid circular issuing from the nondescript "Pennsylvania State Committee on Nursing," which was copied in the April GAZETTE, seems to be stirring the chivalry of the medical profession in a way that is calculated to make many more friends than enemies for the nurses' bill. The seventy-odd physicians who ostensibly subscribe to this absurd document ought to have been keen enough to prognosticate the results that have followed whenever an honest physician has taken the time to read and analyze its puerile assertions. We have not space enough to notice all the editorial comments that have been provoked by this onslaught upon the nurses, but we will quote briefly from two of them.

The *New York Medical Journal* concludes its discussion of the circular in these words:

> There have been many foolish utterances published by persons professing to represent the profession of nursing, and we all know that a few individual nurses have made themselves highly objectionable. We do not think, however, that these things should be allowed to obstruct the nurses of Pennsylvania in their honorable ambition for registration. There are black sheep in all callings, and, unfortunately, education does not endow fools with wisdom. As to the maintenance of nurses' wages above what the poor are able to pay, the law of supply and demand may be relied upon to bring about a satisfactory condition ultimately, registration or no registration.

The *Interstate Medical Journal* devotes its leading editorial for April to the correction of its erring brothers in Pennsylvania, making use freely of the ***argumentum ad hominem,*** which, we believe, is the very best way to dispose of these alleged "friends" of the nurse and of their circular:

"Culture, refinement, education and definite professional training are the qualities that should be demanded of a professional nurse if she is to have a fixed place in the community. The first step towards this end is the registration by the State of those who are capable and the exclusion of those who are unfit. So energetic a demand as that contained in the pamphlet issued against the passage of the Act for Registration of Nurses in Pennsylvania seems far beneath the dignity of any fair-minded person, and much further than this, beneath the dignity of a physician, whose aim should be toward the betterment of medical conditions in the community. If any physician or surgeon has repeatedly had the sad experience with nurses which are set forth in the pamphlet; if in his contact with professional nurses, especially where they have been of good hospital training, he has again and again found them overbearing and critical, let him take an honest, unprejudiced look at himself and his methods, and compare them with the standard set by any modern hospital for its medical staff. Perhaps he will discover something.

"The trained professional nurse is an absolute necessity to the modern physician, and incidentally to the modern patient. The better her training and the better her general education, the surer will be the chance of her being a good woman and a good nurse. As a class, trained nurses should set up requirements and be very careful whom they admit into their sisterhood, and the

State should see to it that they are protected.

"The regulation and control of nurses by State law is a great step in the advancement of medicine. For a time the passage of such a law might be followed by unpleasant conditions, due to individual misconception, but the end-result would certainly mean a purification of the nursing ranks similar to that produced on medicine in general by the legal demand for the registration of medical practitioners."

CLEAN OBSTETRICS AMID UNCLEAN SURROUNDINGS.

(*Continued from page* 241.)

THIS is the second and last instalment of the excellent paper by Dr. Joseph B. De Lee, of Chicago, printed originally in *Surgery, Gynecology and Obstetrics*, and reprinted, with an introductory editorial, in the April GAZETTE.

CARE DURING THE PUERPERIUM.

The post-partum work is considered of equal importance to any other in the service, and careful attention is given the women and babes during this period. The students and nurses are taught to observe the physiological phenomena as they develop in the puerpera and the infant. Knowing the normal conditions, they will be able to recognize the pathological. Puerperal complications are so rare that very few students have the opportunity to study a case of infection or mastitis.

The interne teaches the student what to do and what to observe during the post-partum call, and the nurse shows him how to oil or bathe and dress a baby.

Daily visits are made for nine days, and on the eleventh day the patient is discharged, unless there is present some complication connected with the obstetrical side of the case.

At each visit the points numbered on the post-partum record are elicited and noted. The student thus learns what he should look for in a puerpera. Then the patient is dressed antiseptically and a new pad put over the genitals. Before touching the genitals the student removes the soiled pad or cloth, arranges the patient and bedclothes so that he can reach the genitals handily, and lays a folded newspaper under the buttocks. Then he arranges the basin with 1-1500 bichloride and has the jar of cotton sponges open, near the bed, after which he sterilizes his hands. Gloves are worn if there is an extensive laceration, if the lochia are fœtid, and invariably in infected cases. After the antiseptic bathing of the genitals, a new pad is applied and the T-binder readjusted. The nurse combs the patient's hair and performs other nursing duties for her, such as a full bath, changing the bed, the enema, etc. In the absence of the nurse, the interne or the student does the best he can with such attentions. Under no circumstances is the interne allowed to give douches or to make internal examinations.

The breasts are supported with a roller-towel or breast-binder. They are washed with soap and water the first day; after that the nipples are bathed daily with boric solution. The patient is instructed how to give them cleanly care, but much cannot be expected of this class of patients. That even this care and advice accomplish a great deal may be deduced from the fact that mastitis is very rare, and when it does occur, it is usually several weeks after the patient is discharged.

The bowels receive close attention during the puerperium, as they have much to do with the smooth recovery of the patient. About forty-eight hours after delivery, one ounce of castor-oil is given. Every day thereafter, at least one alvine evacuation is procured, either by enemata or cascara.

The diet is simple; liquids for twelve hours, semi-solid for a day, then a light diet being ordered. It is impossible to carry out a regimen looking toward the avoidance of infantile colic. The women will eat everything, and often nurse the infant whenever it cries. The rule given for nursing the baby is to do so every two hours during the day and every four hours at night. The patient is allowed to sit up in bed from the seventh day on; she gets up in a chair on the ninth or tenth day, and is allowed to walk around the room as soon as she feels strong enough. In particular cases these rules are modified.

The infant is put to the breast six or eight hours after labor. It is given only water till the milk comes. When the mother is given castor-oil, the infant also receives ten drops as a routine practice.

The navel is dressed daily, with sterile hands. The old gauze is soaked off in 1-1500 bichloride, the stump washed with the same, dried, and dressed with sterilized gauze. No powders are used. If the cord is moist or fœtid, it is dressed with fifty-per-cent. alcohol for a few days.

The infant is not bathed until a day after the umbilical stump has healed over. In the mean time it receives a daily olive-oil rub. The head, hands, and buttocks are washed with soap and water from a basin. In summer the oil sometimes macerates the skin, wherefore a sponge soap-and-water bath is then substituted.

The mouth is washed once daily with boric solution, as also are the outsides of the eyelids.

It will be noticed that the care of both mother and babe has been much simplified, the keynotes being cleanliness and non-interference.

If a puerpera has a rise of temperature, the director is notified at once, and if the symptoms point to the genitals, the following is the routine treatment: 1. An ounce of Epsom salts, followed in a few hours by an enema. 2. Fifteen drops each of Squibb's fluid extract ergot and hydrastis canadensis every four hours. 3. Liquid diet.

A sharp investigation of the labor is now made, to determine who delivered the patient, the number of internal examinations, and the condition of the placenta and membranes. If the uterus is, in all probability, empty, no local treatment is instituted. General medical treatment is employed. If there is real suspicion that a piece of placenta has been retained, the uterus is cleaned out with the finger. This operation has been done only twice in the twelve years' existence of the Dispensary. The fever almost invariably subsides in a few hours or days without treatment. It is this experience that brought the writer to look askance at all reports of the successful treatment of puerperal fever by means of douches, curettage, etc. Our women get well quicker without such interference.

Engorged breasts are treated by the ice-bag, restriction of liquids in the diet, and a tight breast-binder. Incipient mastitis, evidenced by pain in the breast, chill, fever, etc., is treated very rigorously. The babe is removed from the breast, the organs are bound up firmly with a compression binder, the mother is given a whole bottle of effervescent liquid citrate of magnesia, and three ice-bags are applied to each breast for forty-eight hours. With this treatment, only exceptionally will the inflammation go on to abscess.

For cracked nipples, two-per-cent. nitrate of silver solution is applied in the A. M. and P. M., and Wansbrough's lead nipple-shields are worn.

THE HISTORY-SHEET.

The labor records and the post-partum records are kept in the office. Every night the clerk extracts from these the condition of mother and babe, entering these points on his "morning report" for the inspection of the head nurse, the internes, and the medical director. These reports are preserved, and help to verify and supplement the other records of the case. The history-sheets, when completed, are all copied by the students on clean white blanks for the purpose of permanent binding. This copying of the records also fastens in the minds of the students the essential points of our obstetrical technique. The bound records are preserved at the Hospital, and are accessible to the medical profession.

The following rules are printed for the use of the internes and patients:

RULES FOR PREGNANT WOMEN.

1. A woman who is pregnant should consult her physician as soon as possible, so that anything in her case that is not right may be corrected. If she cannot afford to have a physician care for her during confinement, she may obtain proper care from the Dispensary, 302 Maxwell Street, Chicago.

2. If the woman has had instruments used, or a hard time, at any previous labor, or if she is small or deformed, she should ask the doctor to "measure her" and to see if she is in good condition to have a baby.

3. She should report to the Dispensary if she has *too much headache, vomiting, trouble with her eyes, swollen feet or eyelids, bleeding from any part of the body, or too much pain.* If she does not pass enough water (urine), she should bring a sample to the Dispensary for the doctor to examine.

4. She should eat meat only once a day; she should not drink tea or coffee more than once a day; she should eat fruit, vegetables, cereals, breadstuffs, and butter, and she should drink plenty of water (boiled and cooled), milk, and buttermilk.

5. She should bathe at least once a week, and take care not to catch cold. Her dress should be warm. She should not wear tight bands around the belly, nor round garters.

6. She must see to it that her bowels move every day. This is very important.

7. She must go out and walk in the fresh air every day.

8. When the labor pains begin, or if the "waters" should break, send at once to the Dispensary for a doctor. Have ready a bundle of *clean* newspapers and a kettle of hot water. Before the doctor comes, take an injection of soap and water to clean out the bowels.

9. Allow the doctors to carry out the rules prescribed by the Dispensary for treatment of patients.

10. This Dispensary is intended only for the poor women who cannot afford to pay a private doctor for care during confinement. It is supported by charitable donations, and those of the patients who can afford it should give as much as they can. The money will be used to pay for those who are absolutely destitute, and a receipt will be sent by mail.

PREPARATION OF THE HANDS FOR OBSTETRIC CASES.

General Rules.

1. Keep the hands aseptic as far as possible by avoiding direct contact with infective matter. Use rubber gloves.

2. After all dissections, dressing pus cases or erysipelas cases, or touching the lochia of puerperal cases, sterilize the hands immediately.

3. After attending diphtheria or scarlet fever cases, etc., change clothing, bathe, and shampoo head and beard.

MODE OF PROCEDURE.

1. Coat off; sleeves rolled up above elbow.

2. Wash hands for two minutes in running water, working the soap well under finger-nails and into all creases.

3. Pare and clean finger-nails carefully with blunt instrument. Nails not longer than 1 mm.

4. Prepare patient.

5. Scrub in running water or frequent changes for five minutes. Open out the creases and be sure to scrub well under nails. Rinse and dry.

6. Make external examination.

7. Prepare two solutions, near the bed: 1-1500 $HgCl_2$, 1% lysol.

8. Scrub for five minutes, as before.

9. Wash hands in the lysol solution.

10. Draw on sterile rubber gloves. These gloves must be perfect, and are to be boiled for ten minutes. Do not touch fingers of glove with bare hand.

11. Wash vulva with bichloride solution, then with lysol solution, leaving a bit of soaked cotton in the introitus.

12. Now wet hand in lysol solution and make the internal examination. Be sure the fingers touch nothing on the way. Separate labia widely.

PREPARATION OF THE PATIENT (POINT 4).

1. Clip pubic hair closely.
2. Scrub thoroughly from ensiform to knees, using much soap, giving special care to the genitals.
3. Wash from ensiform to knees with 1-1500 bichloride, paying special attention to pudendal region.
4. Put on clean nightgown and wrapper.

REPORT BLANK, CHICAGO LYING-IN HOSPITAL, DISPENSARY SERVICE.

[When sending or telephoning to the Dispensary for assistance or advice, internes must always use and fill out this blank.]

Date.............o'clock.....M.
Name of patient........................
Address....... Rear Front House....Floor Rear Front
Para....Month of pregnancy....Age....
Duration of first stage...Second...Third...
Pulse..... Temperature..... Bladder.....
Presentation........... Position........
Fœtal heart tones:
Rate.....location.....regularity.....
Membranes:
Intact........ruptured. Time........
Cervix: *Effaced*.......Os: *Admits*.......
Presenting part: *Engaged....At outlet*....
Pelvis: *Measurements*..................
Character and frequency of pains.........
....
General condition of mother and baby.—
Remarks
....
....
....
....
.....................Attendant.

THE NURSING OF CHILDREN.

By Miss Minnie Goodnow,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

PRELIMINARY TRAINING.

It ought to be an axiom that no nurse should take charge of an obstetric case—except in an emergency—unless she has had good training for the work. Good training means, in most instances, special training, for few general hospitals give enough work in obstetrics to be considered more than a smattering. The customary three or four cases, with the usual lectures and good surgical training, are sufficient to enable a nurse to help efficiently with a normal delivery and to take proper care of an ordinary case—as far as the mother is concerned. The chief criticism made by doctors, however, and almost the only complaint which comes from patients, is that nurses do not get on well with the baby; and this, as many a nurse knows to her sorrow, is a thing which cannot be learned from an experience which embraces but three babies. This, too, is in almost every instance the reason why nurses do not like obstetrics—because they do not know how to manage the baby.

A special course in obstetrics, or one in the care of children, is not as formidable as it may appear. There are hospitals within reach of almost any part of the country which give courses in these subjects of from two and a half to four months; nearly all give thorough training and grant a diploma. A few months' time, even though it be without an income, is very little to give in exchange for prestige in a line of work which is not overcrowded.

IMPORTANCE OF FIRST FEW DAYS.

The importance, both to mother and child, of proper care for the baby during the first few days, cannot be overestimated. It is these first days which set the pace for months to come, and it is during them that a nurse makes or unmakes her reputation.

Few people, even doctors and nurses,

understand that children are born with dispositions, and that these dispositions must be dealt with in one way or another from the hour of birth. The nurse who takes advantage of her opportunities will notice that one child is impatient and wilful, and another serene and yielding, from the first day of life. It is just as impossible to succeed if one treats all babies alike as it is if one treats all men and women alike. Adaptability nowhere finds a wider field of application than in obstetrical nursing.

CARE AT DELIVERY.

When the child is delivered, the physician is usually present to direct the care. Most doctors expect the nurse to wash out the child's eyes and mouth carefully with warm boric solution. The majority prefer to tie the cord themselves; but if a nurse is asked to do it she must see that her hands are sterile. If the child is not breathing properly, the physician will be responsible for the necessary treatment. The cord cut, eyes and mouth cleansed, and respiration established, the child is given over to the nurse and thenceforth the average practitioner pays very little attention to it.

The child should be received in a warm sterile towel held in the nurse's hands, and should be laid on its right side in a warm blanket, the towel being left to protect the face and eyes from the roughness of the blanket and the cord from possibility of infection. A rocker or other large chair with arms, containing a pillow, a soft, clean blanket or quilt, and a hot water bag, is usually the most convenient arrangement. If the baby is in good condition it may be covered—except a small opening for air near the face—and left, while the nurse assists in the care of the mother. An occasional look at it in passing is sufficient to reassure oneself and the family. If the physician wishes the Credé treatment applied to the eyes, he will see to it before he leaves.

Remember that as soon as the mother is clean and comfortable she will wish to see her child. A glimpse of it just as it is, wrapped in the blanket, will be a great comfort. After that, it is best taken out of the room, while the mother goes to sleep.

TIME OF BATHING AND DRESSING.

A child may with perfect propriety be left for six or eight hours with no attention further than seeing that it is properly wrapped and in good condition. When one thinks of the radical changes which take place at birth one finds much to condemn in the practice of immediate washing and dressing; consider the nervous shock of the handling, however gentle, which this entails; and bear in mind that the mother, even if asleep, needs careful and constant watching for some hours following delivery. The purely mechanical work of cleaning and straightening up leaves less chance for neglect than if the nurse were absorbed with the baby.

THE FIRST BATH.

After the mother is safe from danger of hemorrhage and the house is in order there is time to bathe and dress the baby. The child should early have been well anointed with sterile olive oil or white vaseline, and it will be found that within a half-hour after this application the cheesy material (vernix caseosa) which was present has disappeared. Gentle sponging with not too strong soapsuds of a temperature of 100° to 105° F. is sufficient to remove the oil and any foreign matter which may be present. The softest possible washcloths and towels should be used, and the utmost care exercised in drying; surgical gauze is a good material for washcloths and a piece of old table linen makes an excellent towel; if properly absorbent materials are used there is no excuse for rubbing, as the drying can be done by gentle patting. Powder is unnecessary, but may be used sparingly if it does not irritate the skin. A tub bath is, as a rule, objectionable, because of the danger of infecting the cord; but one may appropriately be given if for any reason the child is blue or chilled.

DRESSING THE CORD.

Always ask the physician—unless you are familiar with his practice—how he wishes the cord dressed; as a matter of fact, one method appears to be as good as another, providing the materials employed are sterile. Dry cotton and powdered boric acid are very commonly used; talcum powder, salicylic acid, bismuth, zinc oxide ointment, etc., are also employed. After the first dressing a thorough letting-alone is the best treatment for the cord; a daily inspection and a change of dressing if it becomes soiled is all that is necessary. It is the custom to turn the cord to the left in putting on the band, in order to avoid pressing upon the liver, but in actual practice either side is equally correct.

CLOTHING.

The band, which is worn from one to three months, should be of flannel, made straight or fitted with darts; hems or embroidery are objectionable; a half yard of forty-cent white flannel is the most convenient material to have ready and can be torn into strips of the proper width when used. The band should be sewed on with long stitches, never pinned. It should be loose enough to easily admit the nurse's finger as she sews, but snug enough to stay in place. A tight band is harmful, and may be the cause of fretfulness.

The diaper should not be pinned too tightly and should be fastened to the shirt, not to the band. Inside the diaper there should be placed a square of old cotton cloth or a layer of absorbent cotton to receive the meconium; this is to be burned, and is a considerable saving of laundry.

Except in hot weather the shirt should be of wool, and wool stockings or bootees should be used; in summer the shirt may be of cotton or linen-mesh and the feet left bare. With wool next the skin the fewer outside clothes the better: a flannel petticoat hung from the shoulders and a light slip are sufficient; or a pinning-blanket —also hung from the shoulders or cut by the "Gertrude" pattern—and a nightgown may also be used. A fine, clean head-shawl or, in default of this, a soft towel or napkin should be used to protect the face and eyes; and the baby should be wrapped in a warm, soft blanket or quilt. Remember that the tendency is always to keep a child too warm rather than too cold. Remember, too, that the feet may be cold when the rest of the body is warm.

The room in which the baby is kept should be a sunny one, but the eyes should be well protected from strong or direct light. Ample ventilation must be provided; Holt asserts that a young baby needs more fresh air than do older ones. Do not quarrel with the grandmother, but *get* fresh air.

URINE AND STOOLS.

The child's bowels should move thoroughly during the first twenty-four hours; if they do not of their own accord an enema should be given. This may be done with a small, soft-rubber catheter and funnel, or with an infant's bulb syringe. The ancient and honored formula of molasses and water is not objectionable for this purpose, but plain warm water is equally effective; soapsuds should not be used unless necessary.

The first urine voided is frequently scanty and high colored, or with a red sediment which may be mistaken for blood. The time, quantity and frequency of urination should be carefully noted. A child may fail to urinate for twenty-four hours after birth without any harm; this point is not to be made an occasion for worry, but for watching. If urination is delayed longer than twenty-six or twenty-eight hours it should be reported to the doctor. Water given freely by mouth, and moist heat externally, are usually sufficient to provoke a free flow of urine.

WATER.

Water should be given regularly the first few days as later. Half an ounce, or even an ounce, every four hours is not too much if the baby is awake or crying. Until the nursing habit is established water should not be given from a bottle, but from a spoon; this is more trouble at first, but far less in the long run, as it is frequently very difficult to induce a baby to nurse after it has been allowed to drink from a bottle. In fact, it is wisest in ordinary cases not to give water until after the child has been once put to the breast and been made to nurse properly.

NURSING.

The first nursing should take place as soon as the mother is rested and the child washed and dressed. If the mother has any tendency to hemorrhage it should occur much sooner. If mother and baby sleep and are in good condition some physicians prefer to wait twelve hours. Three or four times a day during the first day, and every four hours for the next two days, is frequent enough to give the child the laxative effect of the colostrum and to establish the habit of nursing.

Remember that a primipara rarely knows how to nurse her baby, and that it is the nurse's place to teach her. The mother should lie on her side and the child should be supported by her arm or by a thin pillow so that its mouth will be squarely in front of the nipple; she should be shown how to support the breast and to hold the nipple so that the baby may be able to get and retain its grasp. Many of the difficulties about nursing are due to neglect of these small matters. If a baby refuses to waken, or seems not to be hungry, after a reasonable amount of effort the child may be allowed to sleep and the mother assured that when it is really hungry it will nurse properly; any difficulties encountered in this direction usually adjust themselves.

In cases of flat or retracted nipples a breast pump may be used to draw them out, or a shield employed to enable the child to get a hold; but these appliances may usually be dispensed with if the baby be properly awake, properly placed, and skilfully handled. Very bad cases of retracted nipples may be successfully overcome by a good-natured, wide-awake baby.

Thorough but gentle washing of the baby's mouth should be done before each nursing; theoretically, it should also be done after nursing, but in actual practice the usual method is quite satisfactory. A bit of absorbent cotton twisted about a toothpick is the best thing to use for this purpose; the nurse's finger, no matter how gently used, may bruise the tender mucous membrane of the mouth. The mother's nipples should be washed both before and after nursing, the washing afterward being the most important, and any excessive tenderness or the slightest suspicion of a fissure should be at once reported to the physician.

UNUSUAL CONDITIONS.

If the head is out of shape from a prolonged labor, the nurse should reassure the parents in regard to it. No treatment is necessary, as such deformities rarely persist for more than 24 hours, and no harm is likely to result from them.

Forceps marks, unless deep, need no attention. If the skin is broken, or there is much bruising or swelling, the doctor may order a hot application, a soothing lotion, or an ointment. Facial paralysis, from forceps, even if considerable, usually lasts but a few days, and need not be cause for alarm.

Vomiting of brown material ordinarily means that the mouth or nose has been bruised during delivery; it is not an occasion for alarm unless there are other symptoms of hemorrhage. Bleeding from the mouth is apt to be due to the same cause. These conditions should, however, be reported to the doctor.

Hemorrhage from the vagina should be reported. No treatment is likely to be ordered unless the flow is profuse or long continued. This condition is incorrectly called menstruation. If a douche is ordered, it may be given with a small glass piston syringe.

Hematoma is best left alone, but may persist for months.

In case of hemorrhage from the cord, however slight, if the doctor is not present, the nurse is justified in retying the cord with a fresh ligature.

A sufficiently detailed report of the baby's condition should be made each day for the physician to keep in touch with its progress; anything unusual should be shown to him, not simply told. As a preventive of misunderstandings, it is wise to have the doctor see the baby at each visit; the nurse should not ask if he wishes to see the child, but should bring it in as a matter of course. Neglect in this matter may lay both physician and nurse open to criticism later on.

CRYING.

The child's crying during the first few days is one of the most difficult matters with which a nurse has to deal. She must explain as best she can the reasons for it, and endeavor by her tone and manner to quiet the mother's anxiety in regard to it. It is to be borne in mind that a mother frequently worries less over crying if the child is in the room with her and she can see what is being done. At night, however, it is better that she should not be disturbed, and the baby should be kept in another part of the house. In hospital practice, babies should invariably be kept in a nursery at some distance from the mothers' rooms, but the mothers should be told that they may see them whenever they wish. Most of the difficulties encountered in this direction are due to lack of confidence in the nurse's ability, or want of tact on her part.

Crying may be from hunger, in which case water may relieve it. (If the milk has not come in the mother's breasts, and the child is evidently hungry, food may be given under the advice of the physician, not otherwise.) Crying may also be due to colic, which may be relieved by copious draughts of warm water, and by laying the baby almost on its face over a hot water bottle. Or, crying may come from simple lonesomeness, and in this case the child may be gently turned, patted, or even talked to in moderation, but never taken up or held.

Most of the difficulties of the first few days may be overcome by little attentions. Nothing is too small to be important. The utmost kindness and the utmost firmness, coupled with an intelligent appreciation of the present need and the future good, will do much toward making the first few days comfortable and valuable to mother, baby and nurse.

(*To be continued.*)

CIVILITY—A MESSAGE FOR TO-DAY.

Every one who asks a civil question has a right to a civil answer, and generally it is better to answer a question that is not civil in a civil spirit. It is a sign of good breeding, self-control and genuine manliness. Moreover, its effects may be medicinal, diverting serious consequences; for there is nothing better than a soft answer to turn away wrath. They who travel need to inquire. That is a stranger's privilege. Many ask needless questions—foolish, possibly impertinent questions. But the man with the civil spirit in every case has the opportunity of showing that he is master of the situation because he is master of himself. When he might be curt, or sarcastic, or angry, or retaliative, he is not easily provoked, ruleth his own spirit and helps his weaker brother to control his. Civility is the spirit of gentleness, of self-mastery, of peace, and of Christ.

I plead for the cultivation of the spirit of civility, especially among young people. It is a beautiful virtue. It is the sweetest note among the discords of passing days. It cools the atmosphere, it keeps the heart at peace, it pleases God.

Civility does not consist in words only, but in deeds, in looks, and in smiles and manners. It is not a form, but a habit—a life. It is not made manifest by age, or sex, or attire, or reward, but by any opportunity for gracious Christian service.—Bishop Henry Spellmeyer, D.D.

SURGICAL TECHNIQUE, WITH SPECIAL REFERENCE TO NURSING.

By C. P. Thomas, M.D.,
Surgeon to St. Luke's Hospital, Spokane, Wash.

It will not be my object in this article to outline any new procedures or to describe any one which I consider of major importance in the consummation of this so much to be desired condition of perfection from an end result standpoint, but rather to outline more or less in detail the many little things that we have used successfully in St. Luke's Hospital of this city for the past two years, in about one thousand operations in my service. I might also add that about the same number of operations have been done there during this time by my associates.

With this experience before me I hope I will not be considered dogmatic if I seem to speak with some authority. In order to make and maintain a good surgical technique it is neccessary to have a competent and reliable head of the department in the nursing corps, who must be in complete control of everything and everybody in and around the surgery, except the surgeon-in-chief; and these two should be in complete accord and have the utmost confidence in each other.

In my work this head surgical nurse is my first assistant. This, I have found, increases her interest in the work and enables us to keep her in the best mental attitude for good, honest, faithful and competent work. Having a training school for nurses in conjunction with the hospital makes it necessary to rotate the other nurses at regular intervals, and this must be done right or it may lead to serious errors in technique.

The operating room experience for the nurse in training should be reserved for the last year of her course, but during the other two years she should be given numerous opportunities to witness operations from the observatory stand. One which will seat at least a dozen persons should be in every operating room. It can be made out of gas piping by any good plumber for about $75 and will occupy but three by twelve feet floor space. After this observatory course, during which time she has had two years' regular courses of lectures and practical training, she is put in the surgery as scrub nurse for two months. During this time she arranges the clothing of the patient on the table, removes the dressings which have been applied the day before, ties the hands, prepares the solutions and waits on the physician who administers the anesthetic, as well as the two clean nurses and operator. She is the ever ready unclean assistant and is about the busiest person there.

After two months of this work during the operating hours, the rest of the time being spent in preparation of materials for sterilization, including pitchers, basins, trays, instruments, etc., she is ready for her first clean-up. All instruments are boiled after as well as before operation, and it is her duty to assist the one just preceding her in the course, in the care of the instruments, thus familiarizing herself with their names and uses. She has also learned from observation during this time how to prepare the field of operation, which she does later after cleaning up, under the watchful eye of the head nurse, who carefully directs her until she is certain of her competency.

After the skin is prepared she leaves the placing of the lap sheet and towels, and the last application of alcohol to the head nurse, and in the meantime she prepares her hands and puts on gloves. The surgeon and head nurse proceed with the operation and are ready for sutures, ligatures and needles by the time the second assistant can get them.

Our hand cleaning process is as follows, and this applies to nurses and physicians alike: The sleeves are pushed up well above the elbows and five minutes is spent with good hard soap and hot running water, being sure to get plenty of soap under the nails. Then remove all soap and dirt from under the nails with a good blunt nail cleaner.

Follow now with green soap, drawn from the container by a foot pedal, and a sterile brush, still using hot running water, giving special attention to the nails and joints, continuing this process for five minutes; then apply about one ounce of turpentine to the hands, washing it off well with more green soap and hot water.

Then dry the hands with sterile gauze and apply Harrington's solution with another piece of gauze, rubbing it well into the nails and up to the wrists, and allow it to remain on two minutes, washing it off with hot running water.

If this hot running water is not sterile, which should have been ascertained previously, we then wash off this water in a basin of one to two thousand bichloride solution which is made in water previously sterilized by boiling. Then the hands are again rinsed in plain sterile water to free them from the bichloride solution, which is known to be injurious to wounds, especially those intra-peritoneal.

The hands are now ready for rubber gloves or rubber solution; if neither are to be used, it is well to again rinse them in alcohol or ether to prevent sweating.

After this preparation is complete, sterile gauze is used to encircle the wrist under the cuff of the glove or short sleeves tied snugly at the elbow and wrists are put on to prevent perspiration from the arm running down into the wound. Short sleeved sterile gowns, completely covering the body, under which but little clothing is worn, should be put on by the surgeon and nurses during the latter half of the clean-up stage.

A cap completely covering the hair and face to the eyebrows is fastened on snugly, and a gauze filter placed over the mouth, consisting of at least nine thicknesses of medium weight gauze. The mouth filter should be put on before the Harrington solution is washed off the hands, otherwise talking against the hands may deposit spittle on them, which is a most fruitful source of infection.

I am a sincere advocate of rubber gloves for all assistants, and insist upon their being well boiled and free from holes. The operator should wear gloves in all septic cases, and in the event a septic case is by accident handled without gloves, they should be worn during operations for three days thereafter. When gloves are not worn by the writer he uses Murphy's 4 per cent. rubber acetone solution, applying two coats.

All instruments, including knives, are boiled fifteen minutes in a sal soda solution, and also all pitchers, basins, instrument trays, needle containers, etc. This entire process is repeated between operations and again after the day's work is done. All sponges, sheets, towels, gowns, caps and dressings are first washed and boiled at the laundry, then put into neat packages, wrapped in thin muslin subjected to double sterilization, on different days, in the high pressure steam sterilizer, and not removed therefrom the last time until ready for use, and only then by gloved or sterile hands.

It is well here to caution against the boiling of instruments in a pan or instrument sterilizer containing a cloth or towel, as is so often done; this invariably causing instruments to rust.

Aluminum instruments must not be boiled in soda solution, as it tends to destroy their smoothness. Soft rubber goods must not be boiled with instruments as it tarnishes them; hard rubber ones not at all, especially pessaries, since their shape is thus destroyed.

The field of operation is prepared the same as the hands, except that it is shaven the evening before and prepared up to the application of the Harrington solution, then covered with a green soap poultice, which is left on over night. This is removed after complete anæsthesia, the Harrington solution then applied for two minutes and washed off with sterile water. It is then surrounded by a sterile sheet and towels, a hole being previously made in the sheet, and the surface is again washed with alcohol. If these towels become soiled from wound discharges during the operation they are covered up or changed by the nurse.

Ether is used entirely by us for general anæsthetic purposes, given through an Allison inhaler, a clean one being used for each patient, and administered as follows: a pin puncture is made in the top of the small original ether can, a steady fine stream being played on the cloth of the inhaler until complete anæsthesia is produced, after then only as required. We have given it by this method to about fifty nephritics in the last two years with no injurious effect. We consider it as good as the open drop method and more convenient and economical.

If the patient is very nervous or an alcoholic we precede the anæsthesia about thirty minutes with a hypodermic dose of Dr. Lanphear's hyoscine morphin and cactin; and if not, by one one-hundredth grain of hyoscine hydrobromate alone, and we find that it prolongs the post-operative quietude, prevents vomiting and makes anæsthesia easier.

Our nurses are regularly instructed in ether administration, being told to watch, first, the breathing; second, the color of the patient, blueness being an indication of over-dose if the breathing is good; and third, the pupils, dilatation when anæsthesia is complete indicating an over-dose.

The sutures and ligatures are as follows: soft catgut prepared by the Bartlett process, numbers 1, 2 and 3 in small salt mouthed bottles, one coil at a time being taken out with clean forceps by clean, or better, gloved hands for buried sutures and ligatures where great tension is not required. This catgut, while strong, if well selected, is so slippery that it is not easy to tie it securely. Chromic gut, numbers 1, 2 and 3, in sealed breakable tubes, the size used depending upon the tension and life required of it, for all other buried work, except intestinal suture, and for this we use celluloiden linen of very fine size.

For bone work aluminum bronze wire and perforated silver plates and screws are used. For simple surface tension suture iodized silk worm gut is employed, and horsehair for skin coaptation suture. Horsehair is prepared by keeping it in sterile water one week, washing it and changing the water daily, then boiling three minutes and keeping in 95 per cent. alcohol until ready for use. We consider this the best skin suture because it is cheap, non-irritating and elastic enough to permit some swelling of the edges of the wound.

Our nurses are taught three chief methods of dressing wounds: first, the sealed collodion dressing used on small children and for closing a clean wound near a septic one left open for drainage purposes; second, the clean cases are simply covered with sterile gauze and cotton held in position by Z. O. plaster and binder, our preference being for the Scultetus or many-tailed bandage. Third, the moist dressing, which is made by applying wet gauze and cotton with some antiseptic solution, entirely covering the same with oiled silk or rubber tissue held on by a snug bandage. This latter dressing is put on hot and changed about every three hours on every septic case, also every superficial cellulitic inflammation after the same has had applied to it a 95 per cent. carbolic acid solution, followed in one minute by alcohol. Clean cases are dressed the second time seven days after the operation, and again on the eighth or ninth, when the stitches are removed.

Should there appear evidence of irritation around any stitches on the seventh day all such are clipped and left in until the others are removed. This irritation around the stitches is due to pressure necrosis from their having been tied too tightly more often than to infection.

The nurses are taught how to prepare four forms of drainage: First, small rolls of oiled silk without gauze for draining blood, serum and nonseptic fluids generally. Second, the same with gauze called the wick drain, for septic serums and very thin pus, also used as an adjunct, to either of the other varieties of tube drainage. Third, plain or fenestrated rubber tube for gall bladder and duct drain. Fourth, perforated glass drain wrapped with gauze and oiled silk to be used where much pus or large cavities are to be drained. In this latter variety of drainage, after two or three days the removal of the glass portion of the drains, leaving in the gauze and oiled silk, will greatly facilitate drainage. In making the wick drain it is important that the gauze should be of exactly the same size as the piece of oiled silk in which it is rolled; this insures perfect capillarity the full length of the drain, and does not permit the gauze to come in contact with the gut to become adherent to it. The rubber tissue and oiled silk may be sterilized by repeated washings and one week's soaking in 1 to 1,000 bichloride solution.

Posture. We have definite positions and reasons for them, in every operative case, which are largely known and taught to the nurses in charge of the floor. These are as follows: For simple uncomplicated abdominal cases, the horizontal posture with head low is maintained. For septic pelvic cases a back rest is used that puts the patient in a partial sitting posture, keeping her there for three or four days until the drained pelvic region is well walled off; the same posture is maintained by all operated stomach cases until peristalsis is reestablished. This will nearly always prevent post-operative vomiting in such cases. Should evidence of hypostatic congestion of the lungs begin to appear at any time this position is also advised.

In very septic appendix cases after operation, the patient is slightly turned to the right side, being propped up, and two drains are inserted; one, a short wrapped glass tube carried down to the head of the colon, from which the appendix has been removed; the other, a long wick drain, leading well down into the pelvis, for the purpose of removing pus and serum, which accumulates there because of the patient's posture.

It is most important at the time of operation to seek for and remove all such fluids. Many deaths doubtless occur because of the neglect of this simple procedure. The elevated hip posture is used only in the event of secondary pelvic hemorrhage, or primary oozing from imperfect hæmostasis due to separating numerous adhesions.

The elevated head and shoulder position is also used after goitre and head and neck operations generally. The only exception to the above rule would be in the event of the heart not permitting the elevated posture. We usually find, however, that the general comfort of the patient is so increased by this posture that the additional work for the heart is of no consequence.

It is our constant endeavor to give the patient all the fresh warm air possible, but being very careful about draughts. If the proper system of room ventilation has been installed in the hospital this matter will give no concern, otherwise we may expect, especially in the winter time, that a goodly number of our surgical patients will have colds and occasionally pneumonia, death from this source occurring sometimes.

The medical treatment of surgical cases in this hospital is most elementary and simple. Shock must be very considerable or we do not treat it. Saline solution is given very slowly by rectum, and, if necessary, by hypodermoclysis. Strychnia and atropia, hypodermically, and hot water bottles, which must be wrapped to prevent burning the patient, are our chief agents.

Opium and its derivatives are scarcely used at all; since this rule there is not so much demand for physic and many hours of anxious waiting for catharsis are avoided. It is not unusual to have abdominal cases recover entirely without physic, the bowels being moved the second, third or fourth day by a high enema of soap and water.

Iron is given late in convalescence if required for anæmia, and should mild infection be present during the period of recovery, three grains of quinin is given three times a day, and our experience is that it is about our best internal antiseptic.

Catheterization is avoided when possible, but if it must be done the same precautions are taken by the nurse in preparation of her hands, the instruments and the meatus, that we advise for any minor surgical procedure.

Water is allowed in moderation at all times—hot until the post-operative vomiting ceases—then cold, but never iced. Our experience is that ice water, by retarding digestion, is a gas producer.

If the patient is hungry liquid peptonoids, beef tea, clear soup, and fruit juices are allowed in moderation as soon as the bowels move or peristalsis is re-established, as manifested by escape of flatus. Milk and albuminoids generally are not given until after the fifth day, and not then if gaseous indigestion prevails. If the patient is in danger from exhaustion, rectal feeding is begun early and continued until mouth feeding can be resumed.

A well trained nurse is placed in charge of all major surgical cases for the first twelve hours after the operation, if necessary, giving all her time, and she is instructed to report promptly to the house physician if any dangerous symptoms arise.

The Fernwell.

ADDRESS DELIVERED BY REV. JOHN HOPKINS DENISON *

At Nurses' Graduating Exercises, Massachusetts General Hospital, Boston, January 24, 1907.

Long ago in the history of Rome there was a group of maidens who were set apart from all the rest of that great city, and it was given to them as their work in life to guard the sacred fire in the temple. It was felt that if that fire should go out, calamity would come upon the city. So they kept their lives apart and they received honor such as no others in that great city received, and all men deferred to them, and it was known that they held in their hands the destinies of the city. What was that fire compared to that great flame which is given to you to cherish, the fire of life itself, that mysterious flame that burns in the breast of man? We know not whence it comes, nor whither it goes. To you it is given to guard that sacred fire. The doctor removes intruding causes that threaten to extinguish it, but it is your part to cherish the fire itself. When it has burned low, and only a faintly glowing spark is left, it is your part to breathe upon it and coax it again into a gleaming flame, radiant with warmth and light. Surely never was a greater commission given to any one upon this earth, never any cause more hallowed, never any trust more worthy that you should set your lives apart wholly, as did the vestals of old to its fulfillment.

I have been thinking what the best nurses I have known have brought to their work, why they have been so powerful, and their lives so full of help. I wish to speak to you of four things that I have noticed that they brought to their patients.

The first is knowledge and skill. As we look back over the past, or as we look now at foreign nations, such as China and Corea, we see a pitiful state of affairs. Innumerable lives are going out needlessly in cruel suffering, simply because no one knows what to do. Here in Corea is a poor person afflicted. The only way known to cure him is to stick red hot needles in him to drive out the evil spirit. Similar devices I have myself seen in the South Sea Islands, among men that are cannibals. I have talked with one of their doctors. He was a curious looking specimen, with white kinky hair and a brown skin. He informed me the way he cured his patients of all diseases was to fill his mouth full of powdered lime and blow it into their throats. He said that it invariably produced a marked effect! To-day you know that for lack of which so many have suffered and died in anguish. What a marvellous thing it is to hold in your hands this knowledge gathered through centuries by the toil and struggles of many thousands. Think what it has cost. Think what such men as Pasteur have borne to win this gift for you; what obloquy, what defamation, in addition to the labors and privations of a lifetime. Think what it has cost that long line of men from the earliest beginnings of time, from Æsculapius down to this hour. You have it now. It is your heritage. You know what to do in every emergency, in every kind of illness. You know just how to handle that particular difficulty so it will be dealt with to the utmost advantage.

There is another thing—applied knowledge and skill. You know how to use that knowledge you have gained; you have the dexterity that comes through training, and I know from experience the wonderful dexterity which you acquire in the application of knowledge to meet a sufferer's need and minister to his comfort. That is what discipline has accomplished for you. It has enabled you to secure a light, easy, assured touch, to do things that would be absolutely impossible for any outsider. That skill it is yours to bring to bear upon the world outside. I have seen how nurses have accomplished this. I once wanted a nurse in connection with my work on the lower East Side in New York City. A slight, graceful girl applied, who wore rather a dilettante air to my inexperienced eye. I said, "We have a pretty hard position to fill." She said, "I would like to take it. I am not afraid of anything down here, except the intoxicated men." A woman was ill in a rear tenement on Cherry Street, a terrible barracks full of the worst and lowest type of human beings. She lay in a dark bedroom opening out of a filthy kitchen, up two or three flights of stairs. She was emaciated, groaning and apparently dying of a terrible disease. No one had been in there to look after her. The dirt of the room and of her person was beyond description. The condition of the bed was unutterable. The nurse went off to get supplies. When she came back there were four intoxicated men in the room. But the nurse had her eye upon the case. She scrubbed out that room; put clean bedding on that bed; and bathed that woman. She was obliged to cut her hair that was alive with vermin. She put that woman in such a condition that she was comfortable and was in a position to recover. I have heard a great deal about heroes on the battlefield and heard people recite the "Charge of the Light Brigade," but I think that such a deed as this requires a heroism that is of a far higher moral order, and demonstrates a truer courage than that which is found in the destructive agencies of the battlefield.

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* Reprinted from *The News Letter* of St. Stephen's Church, Boston.

The first thing I wish to emphasize, then, is knowledge and skill, and as you go out I know you are going to apply it in this same spirit of heroism.

Another element it seems to me which the nurses whom I have known have brought to bear upon their patients is will power. There is a very curious thing about human beings. When a dog is injured or sick, his instincts tell him what he ought to do; but with a man his instincts seem to tell him to do the wrong thing, and his will is perverse or else weak. The nurses whom I have seen at work have been able to supply the element of will power for their patients. The patient is told certain things to do, but has not the will power to carry through the regimen laid down for him. It is not an easy thing for another to do this for him; it requires firmness and tact. When a human will goes astray, when it is disturbed, there is nothing on earth so hard to manage. There are some who are insane, some under the power of drugs, or bad habits, some merely difficult to handle. One night I promised a friend that I would see that a certain man, who was on a spree, did not drink until he saw her in the morning. I little knew what I had laid out for myself. I started in to divert that man's attention with stories. He came back to the subject of drink. I appealed to his manhood. He came back to whiskey. I tried more stories. He said he must go out and take a walk. He took me up and down through all the dark holes of the city, but he did not shake me. Then he thought he would take a walk on Brooklyn Bridge. I said, "I will go too." I did. And so this thing went on. I exhausted every resource of mind and body. I tried every device I could think of to divert him. That man's will was absolutely determined. He had one thing he wanted and he was going to get it. Five o'clock came. I was so exhausted mentally and morally that I did not think I could keep up the battle another hour. When the sun was up the desire for the thing left him, and I succeeded in getting him to his friend to take the pledge. It is this which hundreds of nurses are doing year in and year out, with no one to appreciate the desperate and bitter conflict which they are waging. I understand it now; this battle with a perverted will for a man's life and honor. You may talk about plunging into the river to save life, but to swim against such a current of man's perverse will is a more heroic and a more difficult thing than any physical risk or endeavor. That is what you are going to do, and what your colleagues are doing to-day.

There is a third thing besides knowledge and will, and that is sympathy. What I mean is the personal element that you can apply to every case. I think the great danger in the life of to-day is its impersonality. As men get together in great corporations, as we manage things *en masse,* the tender touch, the little things that count most are omitted. There is no more the direct personal touch between employer and servant. That also is the trouble in our large city churches; that is the trouble in our hospitals to-day; that is why the poor people hate to come to them. They don't like being "cases;" they want to be people. You of course experience this. It is an extremely difficult thing to handle. I appreciate that with the hundreds of patients that are put upon you in such an institution as this, it is almost impossible toget the individual touch. We are all trying to do things on too large a scale. We are missing the very finest and most important elements. It is the little things that count for most—the little nonessentials. These things are crowded out. You cannot pay attention to little things in matters of life and death; they are eliminated by the pressure of things that seem to be more important. I believe to no one is due greater credit than to the nurse who is able to maintain that kindly ministry of little things. I do not believe there is anything in the world that counts for so much. I believe that what is done for a person when ill counts more than if you were to give him $10,000 when well. You talk about things being worth the doing. You have the opportunity of doing things that will be more appreciated than any other deeds in life.

There is a fourth thing which you can bring to your patients. I do not know how else to speak of it than by the old word faith.

It is not through science, not through medicine or material force alone that one reaches the real source of help for the body and for the mind. The fuel on which the flame of life feeds is spirit. It feeds on certain great ideas and they control and dominate it to a degree that we scarcely realize. The mind has great influence over the body. When in the South Sea Islands I discovered that the natives whenever they broke the *tabu,* the native law, died simply because they were brought up to believe they would die if they broke this law. That is, the idea that got into their minds meant death to them. It went so far that when natives became Christians they thought that unless they knew the very day they were to die something was wrong with their religion. They always predicted the day they were to die. Just before I went there the wife of one of the teachers died in this fashion. Her death was predicted a month ahead, and in spite of all that could be done she grew ill and died on that day. These are all facts that show that the mind does control the body. They saved one teacher there. The missionary in charge went to him and said, "It is entirely wrong to name the day of your death; it is practically suicide, and if you die I will have you expelled from the church." He got well.

I do not know how far we can go positively as to the power of our ideas or thoughts over the body. But we all know there are certain poisonous moods which possess men, moods of fear, of bitterness or discontent, that poison not only the mind but the body, that hinder and destroy the vital powers. If you think you can do your work well without dealing with these causes you are mistaken. You have got to fight ideas just as much as the more material things. And this thing, though difficult, you are going to do. I do not know anything that you can give these people that will conquer a poisonous mood except faith. Faith is the conviction expressed by Robert

Browning: "God's in His heaven, all's right with the world." If you have that conviction you will express it and carry it out in your lives, and by it you will change the moods and thoughts of others and bring them life and health.

I have mentioned four things. I do not pretend to begin to understand the greatness of this science which you have at your fingers' ends. I have only sketched very vaguely the greatness of the work that lies before you as I see it. The opportunity is limitless, you can make the work just as great and beautiful, you can make it just as little and mean as you choose.

And so, go forth and remember that you are set apart as were the vestals of ancient Rome, to a sacred calling, to a noble service. It is yours to protect and to cherish, even at cost of all the world holds dear, that most sacred flame that is known upon the earth, the flame of life.

THE MODERN NURSE IN FRANCE.

WITHIN a few weeks Paris is to have a meeting of the International Conference of Nurses. The nurses of France very naturally feel that they are to receive from this conference far more than they are able to give. To-day, as is pointed out by the editor of a French nursing journal, there is no national association of nurses in France, and the nursing staff of the Paris hospitals is more likely to serve as a target than as a model for visiting friends.

This situation is relieved by the zeal and devotion of M. Andre Mesureur, who in the capacity of *Directeur Général* of the *Assistance Publique* has charge of the nursing staff of the Paris hospitals, and who is very popular with all progressive members of the profession. It is the general belief that if he is given enough time and money he will inaugurate such reforms as will elevate nursing in Paris to the plane that it occupies in other great centers.

In view of M. Mesureur's responsibilities and opportunities it is particularly interesting to get a view of his conception of the trained nurse as expressed in his lecture at the opening of the school year, last fall, and reported in the *British Journal of Nursing*. He said, in part:

"The character of the mission of the modern nurse has altered under the influence of modern ideas; to the traditions of the past we must add the thoughts which must henceforth impose themselves on the hospital world, and on the nursing staffs more particularly . . . and it is precisely by the very reason of the personal, individual, and direct service devolving on nurses, that the features of this change should be marked by them in this profession so noble, but so little and so badly understood in France.

"It has been said that nowhere than in a hospital is there a better field for the development of the multiplicity of feminine qualities, and it was thought in the past that to renounce the world and to sacrifice oneself was sufficient to make of a woman a good nurse. Let us cut short the absurdity of such a theory. It is not a question of sacrifice, nor of renouncement, for devotion is no longer sufficient—though it still remains necessary. Woman has a most marvellous aptitude for this devotion which characterizes the nurse.

"Women enter the nursing staff of hospitals under different influences. Some are drawn by an irresistible vocation; the majority become nurses because they come from families who traditionally belong to hospitals; parents or relatives have for generations served the *Assistance Publique;* the walls of their establishments are familiar to them; the young nurse knows that she will find within them friendly faces and that an honorable career awaits her.

"Others come to us because they need to earn their living. Life is very hard in the fields of Brittany, they have heard of the *Salpêtrière,* they have learned from their elders that a woman can find there an easy livelihood, where each one can have opportunities of making her qualities and aptitudes appreciated.

"And, finally, sometimes the probationer, who has crossed the threshold of the *Salpêtrière,* has entered with the hope of breaking down the ill-fate which made her commit mistakes, to forget the vicissitudes of the past, and to begin a new and serious life; and, as a matter of course, if she wishes it, once lost in this immense staff, placed in one of the scattered establishments of Paris, or sent to the Provinces, she can sever the evil ties and unfortunate relations of the past. She will feel herself sheltered because she will have in her hands a means of work, a home where she is no longer alone and lonely.

"This same one can, if she wishes it, become an excellent nurse. During her first six weeks of trial in the six different services recently instituted, and during her six months of probation she has every opportunity of earning for herself a reputation for kindness and devotion which is the hospital tradition. If the probationer is hard with the patient, or irritable with the child she must go. She will never make a good nurse, perhaps she will find elsewhere an occupation which will suit her, let her not waste her time with us nor encumber our wards.

"Humanity! This word perhaps too wide and too indefinite, does not imply excessive sentimentality and noisy manifestations. Humanity in a hospital is accomplished by a gesture, a look which would be imperceptible to the stranger, but which transmits itself to the sufferers and soothes their pain. This humanity manifests itself, continuously and evenly owing to the manner of life of the nurse, which soon becomes second nature to her. The good nurse is quickly known by an equable temper, easy and sympathetic manners, she accomplishes her duties without any trouble and with satisfaction and pleasure. There is a manner of walking through the ward which denotes the profound pity she feels for the patients. When she brings their meals she sees that everything is in its place, that the patient is in a comfortable position to take his food, and without any noise she arranges and readjusts his pillow and places his mug of milk within his reach. In the same thoughtful manner she will tidy up the bed of this one who has got uncovered and pick up the fallen handkerchief of the other. When the doctor speaks to her and asks her questions she avoids leaning on the bed and is never seen touching the bedclothes without cause.

"On visiting days—those unavoidable and trying days—she greets the relatives, remembering that in her they see salvation for their dear one. She understands what hopes are founded on her, what joy she can put in the heart of the sufferer, and those from whom he is separated, by a few genial words and a kindly manner, which denote her mission in life.

"The good nurse knows well what an hour of anxiety and agony it is for the new patient who arrives in hospital. Sometimes indeed he is an 'old hospital bird,' an old *habitué* inclined to look upon himself as quite at home in the house of the sick; but much more frequently the patient is a being depressed by misery, and by physical and moral sufferings, who has been brought to this establishment, whose reputation is unknown to him.

"The populace is prompt in adding faith to legends. It believes easily that the sick are ill-treated. Lately, one of the important morning papers contained, I cannot tell you what a horrible picture of our hospitals. All things combine to frighten a new arrival; the noise of the wards, the overalls of the students, the long row of beds, the smell of carbolic or ether. It is this wounded one, a prey to sufferings, who is put in the care of the nurse. At this difficult moment, a kind word, a friendly greeting will give the unfortunate one infinite consolation. He has just been separated from his own, who were unable to nurse him; he ought to feel that in hospital, though he cannot expect the same affection, he will be equally kindly treated. When everything frightens and oppresses him, he will grip willingly, if she puts it out, the friendly hand of the nurse.

"Let us then understand the true meaning of this humanity which ought to reign in a hospital. No sacrifice of oneself, no renouncing the world; you can be an excellent nurse without daily facing death, modern science gives us the means of mitigating and of avoiding contagion. It is a duty not to neglect them. It is not a question of a rare and an exceptional act, but what is infinitely harder is to accomplish every day, and to begin again the next day a varied task, often revolting, and to do it without hesitation, with that quiet equable will of the one who knows her duty, who has freely chosen her mission in life, and seeks in her work for others the opportunity of demonstrating its nobility.

"The profession of a nurse is not a mere trade, it is something loftier. In hospital you are dealing with human lives—this is what marks and distinguishes it from other trades."

He then speaks of all the reforms which have been taking place for the Nursing Staff of the *Assistance Publique.* The salaries are being raised, the food is improved and more varied, the housing and lodging of the nurses is receiving consideration—there are convalescent homes for them—and those who seem inclined to be tubercular are sent to Forges-les-Bains. And, finally, he speaks about all the unnecessary waste of which many nurses seem to be guilty in all parts of the world, viz., carelessness in breaking thermometers, the use of absorbent wool instead of a duster, and of the poor draw-sheets which mop up all sorts of liquids and dirt, and shows that if each nurse wastes only a pennyworth daily, at the end of the year there is a loss of £9,200 to the funds of the *Assistance Publique.* And he concludes, "There are many who will listen to the high conception of a nurse we put before them. They must consider this high ideal and they must have confidence. Some will attain it, provided they grasp the responsibilities of their work and of all the width, breadth, and delicacy of the profession of a nurse."

CORRESPONDENCE.

THE MEASUREMENT OF THE CHILD'S TEMPERATURE IN THE GROIN.

Editor of the Gazette:

In an editorial in your March number you refer to an article written by Dr. A. H. Parks, and read before the Section of Pathology and Physiology, in June, 1906. This paper was published in September, and after reading it I concluded to try this method, as the author's article showed careful and painstaking investigation. His observations in reference to the difference between the temperature of the rectum and groin are correct, but I must most decidedly disagree with him and you, when you speak of the advantages of this method over that of the "rectal" method. The breaking of a thermometer in the rectum is due to criminal negligence, and should receive its proper punishment. The uterus has often been perforated by the curette (in unskillful hands), but this is no reason to discontinue the use of the curette. I find that children are more apt to be obstreperous and unmanageable with the groin method than with the rectal. The natural normal position of the child may be the closed groin, but when you want the child to assume this position, it usually wants to do the opposite, and it spreads its legs apart. As far as undue exposure is concerned, the rectal method is far less objectionable. This statement holds good in direct proportion to the age of the patient. The older the patient the less necessity for exposure. It is to just such neglect as this (viz., of exposing the infant properly before inserting the thermometer) that such accidents are due. The groin method, it seems to me, has many more objections than the rectal and is, as far as children are concerned, more difficult to carry out. In reference to the insertion of the thermometer into a mass of fæces, this is of little import. If there is any difference at all, the temperature of the fæces is a few tenths higher, due to bacteriologic and chemical fermentative changes. I agree with Dr. Parks when he states in his paper: "It cannot be denied that for purposes of accuracy the natural closed cavities of the body give more constant and reliable results than surface temperatures, or the artificially closed cavities of the axilla, or the groin."

Yours truly, A. L. Goodman, M.D.
263 West 118th St., New York.

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

Dusting Powder.—A dusting powder for use with rubber gloves (preventing perspiration):

℞ Aluminum sulphate,
Boric acid, of each, ℥ss.

M. Finely pulverize.—*Medical Review of Reviews.*

How to Make Castor-Oil Palatable.—The Denver *Medical Times* counsels admixture with an equal volume of glycerine, and flavoring with a drop of oil of peppermint, anise or cinnamon. The capsules of castor-oil are now an excellent method of administration. Where there is no prejudice we suggest putting first about a tablespoonful of whisky in the glass, and then pouring the oil, being careful not to let it touch the sides of the glass, into the midst of the whisky. Thus may a dose of castor-oil be rendered palatable, and even pleasurable.—*Monthly Cyclopædia.*

An Extemporized Aspirator.—An inexpensive and efficient aspirator may be devised as follows: A 5-pint bottle is fitted with a rubber cork, through which passes a glass tube to which is attached an aspirating needle. When wanted for use, 3 drams of alcohol are poured into the bottle, and the bottle is rotated and tilted so that the fluid will wet every portion of the bottle; the excess is then poured out. The alcohol is then ignited, and as the flame reaches the bottom of the bottle, the cork is inserted, and the rubber tube is clamped across with a pair of hæmostatic forceps. This furnishes sufficient vacuum to aspirate any safe amount of fluid. The entire apparatus will not cost over fifty cents. It is in use in the New York Hospital. —*Medical Review of Reviews.*

Vomiting After Anaesthesia.—Vomiting after anæsthesia will cease spontaneously in a few hours (twenty-four at the farthest) unless acute sepsis is coming on, provided all water or other fluid is scrupulously avoided. Above all things ice in the mouth should not be permitted—it tends to prolong nausea indefinitely; but the tongue and lips may be moistened every few minutes with a cloth wrung from ice-water. For wealthy patients a little iced champagne may be ordered after eight hours—a half teaspoonful every half hour until the end of the first twenty-four hours, when, if vomiting has ceased, water may be given cautiously; if it is thrown up, another twelve hours of abstinence must be enforced. For patients who cannot afford champagne, one drop of phenol in a teaspoonful of peppermint water may be ordered every hour if the patient and friends demand something in the way of medication. But the best remedy is perfect quietude and withholding of fluids.—*American Journal Clinical Medicine.*

Protection of the Physician Against Infection.—Physicians are notoriously careless of their own welfare and continually subject themselves to dangers of infection. Clinical instructors in laboratories and demonstrators of anatomy and autopsies should instill into the mind of the student the dangers of infection he is liable to. While at the present time such occurrences are minimized, nevertheless they exist and should be avoided. In the examinations of excreta, urine, sputum, etc., no particles should be splattered. Tests should be made over glass or other easily disinfected surface. Infectious material after examination should be covered with some disinfectant and allowed to stand for some time before throwing into the sewer. All bottles having contained such matter should be broken. A physician should never smoke, eat or use a handkerchief during an examination. Against air-borne diseases it becomes more difficult to protect himself. In visiting such patients either in hospitals or private houses, the physician should wear an ulster over his clothing, and after every visit wash his hands with soap and water. It is also important that the clothing of the physician should be attended to.

Cuspidors, if any are around, should be carefully cleansed and contain some antiseptic fluid.

An important factor in avoiding infection is good power of resistance. To attain that end the physician should be well fed and warmly clothed.—*Red Cross Notes.*

The Cold Bath in Typhoid.—As it is unusual to find a bath in the tropics in which a patient can lie at full length, mention may be made of an apparatus contrived for this purpose by Henderson, of Shanghai. This consists of a long bamboo settee, used by the natives of China, in which the cross-bar at the lower end is removed to make way for the bucket to catch the water as it runs away. Underneath the seat of open bamboo-work a receiver of some waterproof material is fastened by tapes tied along the side of the couch, and sloping towards the lower or bucket end. The water is then continually poured over the patient, who is stripped and covered with a sheet. This was invented by Henderson for the treatment of sunstroke, but can be used for the bath treatment of enteric equally well.

Another method is the "bed-bath." Around the edges of the bed are placed rolled blankets, and over these a rubber sheet, into which two or three pailfuls of water are poured. The patient is placed in the trough thus formed.—*The Hospital.*

Book Reviews.

THE ELEMENTS OF THE SCIENCE OF NUTRITION. By Graham Lusk, Ph.D., M.A., F.R.S. (Edin.), Professor of Physiology at the University and Bellevue Hospital Medical College, New York City. Octavo of 326 pages, illustrated. Philadelphia and London, W. B. Saunders Company, 1906.

The science of nutrition must not only be of great interest to the physician, but its study necessary to the successful treatment of disease as well as the maintenance of health. Only in recent years has the question of nutrition been seriously considered and carefully taught, but the trend of medical as well as other branches of science is forging ahead with giant strides, and he who wishes to keep abreast of this advance must be active indeed.

This book contains some 300 pages of text with an appendix, index of authors and index of subjects. It is handsomely bound in cloth, printed on excellent paper with new type, and should be read by every progressive physician.

PARAFFIN IN SURGERY. A critical and clinical study by Wm. H. Luckin, B.S., M.D., attending surgeon Harlem Hospital; surgeon, Mount Sinai Hospital Dispensary, and Frank I. Horn, M.D., assistant surgeon Mount Sinai Hospital Dispensary, New York City, with thirty-eight illustrations. Surgery Publishing Company, New York, 1907.

This small book, devoted to the use of paraffin in surgical procedures, is the first of its kind that the reviewer has seen, and should be widely read by those interested in cosmetic and plastic surgery. The paper, type and binding are excellent, while the illustrations are mostly good. The much-discussed question of the disposition of the paraffin in the tissues will be found highly interesting as here broadly treated.

THE NEW HYGIENE. Three lectures on the prevention of the infectious diseases by Elie Metchnikoff, with preface by E. Ray Lankester. W. T. Keener & Co., Chicago, 1906.

This small volume of 100 pages contains three lectures delivered before the Council of the Royal Institute of Public Health, London, by Metchnikoff: first, "The Hygiene of the Tissues;" second, "The Hygiene of the Alimentary Canal," and, third, "Hygienic Measures Against Syphilis." In the first lecture the author discusses the role played by the phagocytes in ridding the tissues of infectious microorganisms. The second lecture, "Hygiene of the Alimentary Canal," deals with infection through vegetables, the ova of worms and intestinal intoxication. These two lectures will be interesting to both the medical and nonmedical man. The third, or last lecture, however, will be of interest only to the physician. Most of the material in this lecture is already familiar to medical men, as it has appeared in scientific literature from time to time during the last two or three years.

The work can be accepted as giving the opinion of one of the most competent authorities of a century, and will doubtless form highly interesting as well as useful reading to the medical man as well as to the better-informed layman.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE HOSPITAL SERVICE OF THE UNITED STATES, for the fiscal year 1906. Government Printing Office, Washington, 1907.

The sanitary reports and statistics, which include public health reports, cholera, yellow fever, plague, smallpox, scientific research and sanitation, inspection of the manufacture of vaccine, serums, etc.; efforts at standardization of the suprarenal preparation; prevention of tuberculosis; investigation of the leprosy station, Hawaiian Islands; report of the Porto Rico anemia commission; spotted fever; investigation into the cause of typhoid fever, etc., etc., will be found highly interesting reading.

MATERIA MEDICA FOR NURSES. By Emily M. A. Stoney, Superintendent of the Training School for Nurses at the Carney Hospital, South Boston, Mass. 12mo of 300 pages. Third edition, thoroughly revised. Philadelphia and London, W. B. Saunders Company, 1906. Cloth, $1.50 net.

This volume is much more than a text-book. It contains in convenient form and easily to be consulted a classified list of all the common drugs, a materia medica of about 200 pages, a useful chapter on poisons and antidotes, and a number of tables for ready reference. Few things that a nurse needs to know concerning drugs and their uses have been omitted; it answers all the purposes of a reference book, and, in so far as we have observed, is free from errors.

The value of the book is increased by a well-prepared dose-list, a glossary and a complete index. The nurse who has access to this volume will have few occasions to refer to the larger works.

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OF WHAT USE ARE THE TONSILS?

By Albert Bardes, M.D.,
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From time immemorial the purpose of the tonsils has been the subject of speculative thought. That they have a function in many of the lower animals cannot be doubted. They can be traced down as far as the reptiles, but it is among the ruminants that the tonsils are most highly developed and among these animals, and particularly in sheep, they appear to be indispensable. Here they serve the double purpose of lubricating and moistening the great mass of dry food upon which these animals subsist.

The function of the human tonsils is not well understood. Concerning their uses, various theories have been advanced. Some maintain that it is a mucous secreting organ, and, like in the ruminants, moistens the food preparatory to swallowing. Others think that they have a protective influence upon the throat and are active in the formation of white blood cells. Whatever the function of the human tonsils may be, it is certainly unimportant, for, when they are removed, the health of the individual is in no wise impaired; on the contrary, it is usually benefited. Most likely the human tonsils are simply superfluous vestiges, which, like the appendix, have been inherited from our four-footed ancestors, but which, in the course of evolutionary progress, have become useless.

An eminent surgeon, having in mind the apparent uselessness of the tonsils and the frequency with which they become diseased, has said, that, if he were to play the part of a Frankenstein and construct a human body, he would omit the tonsils and the appendix, since they are both useless and dangerous.

It is a question whether the tonsils or the appendix are responsible for the loss of the more lives. At first thought we are inclined to consider the appendix the more dangerous, but our opinion changes when we stop and consider the high death rate among infants and reflect that most of the diseases of children have their origin in the tonsils.

Among children tonsillitis is by far the most common of all diseases. To mothers, this is so well known, that as soon as a child complains the anxious parent at once looks into the throat for signs of the trouble.

All children are born with rudimentary tonsils, which have a tendency to disappear as the child grows older. In civilized life, however, most children are subjected to such unnatural and debilitating influences that the tonsils become extremely susceptible to disease. The glandular activity in children is very great, and enlarged tonsils represent a perverted activity of these glands. Each tonsil has from 10 to 20 crypts, or blind pouches, and these spaces harbor all kinds of disease organisms. As long as the tonsillar epithelium is intact these crypts appear to be unable to do mischief, but as soon as the vitality of the tonsils becomes impaired they rapidly fall a prey to the very organisms that they have sheltered.

Most mothers make the mistake of coddling their children and giving them too much attention. Either the little ones are bathed too often, and in water that is too warm, or else they are over-clothed. Under these conditions they become tender as hothouse plants and get a sore throat from the first draught that strikes them or from the slightest change in the weather. Then, again, many children are fed too often and are given too much, so that the intestines become filled with a mass of indigestible rubbish which sours and produces an irritability that reacts upon the tonsils.

Follicular tonsillitis, or ulcerated sore throat, is the most frequent form of tonsillitis. It occurs most frequently in children between the ages of 2 and 15, the period of most rapid growth and greatest glandular activity, but at no age is a person exempt.

The disease begins with a sharp chill, followed by a high fever and the symptoms that accompany fever, and besides, there is a general soreness in the bones and in the back. The throat, at first feels uneasy and dry, then sore and painful, particularly upon swallowing or on moving the jaw. The swollen tonsil acts as a foreign body and produces the desire to swallow the lump, and this effort at empty swallowing is more distressing than actual swallowing. Very often the pain is referred to the ear, and the patient is under the impression that the ear is the offending organ. Generally in a few days the other tonsil also becomes infected and the distress becomes complete. Talking and every other movement of the mouth is painful. Further discomfort results from the excessive secretion of mucous and saliva, which collect in the mouth and give a persistent foul breath and bad taste. It is with difficulty that the patient opens the mouth for inspection. Examination shows the tonsils to be enlarged and inflamed and white plugs are seen projecting from their crypts. Frequently these white exudates coalesce upon the surface of the tonsils and resemble a diphtheritic membrane, for which they are much too often mistaken and for which antitoxin is needlessly given. The disease runs its course in from 4 to 10 days, depending upon the severity of the infection and the tolerance of the patient. When the tonsillitis subsides, the trouble is not always at an end, since the infection may have invaded the ear or perhaps have gone to the deeper air passages or into the blood. It is amazing how often the heart becomes affected in tonsillitis. No fewer than 25 per cent. of the patients develop endocarditis from toxic absorption, and it takes weeks before the heart action is again normal. Cases of glandular suppuration and suppression of urine are all too frequent to allow us to neglect even a mild attack of tonsillitis.

The extreme vascularity of the tonsils and the ease with which they become infected make them the avenue of entrance whereby the infecting element of many systemic diseases enter the blood. The well-known association between tonsillitis and rheumatism leads to the belief that the rheumatic poison reaches the blood solely through the tonsils and is therefore a tonsillar disease. It has been shown that even tuberculosis can be transmitted to the lungs by direct lymphatic connection, and it is known that the pleura, the joints and the meninges often become infected through the agency of the tonsils. From the fact that most of the essential diseases of children, such as scarlet fever, measles, diphtheria and chicken-pox are preceded by a sore throat, it has been assumed that they, too, have their origin in the tonsils.

Tonsillitis has a tendency to recur, at least once a year, and with each attack the tonsils become progressively larger, and eventually remain enlarged. Many persons with diseased tonsils suffer from periodic attacks of peritonsillar abscess, better known as quinsy, the most painful form of tonsillitis. It begins as an ordinary tonsillitis, but the infection invades the cellular tissue surrounding the tonsil and terminates in an abscess, which pushes the tonsil forward into the throat. A person suffering from a peritonsillar abscess has a haunted and miserable appearance that is characteristic of this extremely painful affection. Sleep and comfort are out of the question. The act of swallowing spells torture, and frequently the mouth cannot be opened far enough to receive nourishment. Left to nature the abscess seldom ruptures before the patient has given up the ghost and is completely exhausted from suffering and loss of sleep. Sometimes the vital drain is such that the sufferer fails to rally and the constitution becomes permanently undermined. Such was the death of the father of our country, George Washington.

Children that have enlarged tonsils usually have adenoids also. The lymphatic connection between the nose and the throat is so intimate that disease of the one is generally followed by disease of the other, and when they have joined forces they obstruct the breathing organs to such an extent that these important organs are deprived of their uses, and even the ear and the deeper air passages become diseased.

Before having the voice of children cultivated, either for singing or for speaking, their nose and throat should be carefully examined by a competent physician, in order to ascertain if the vocal organs are free from obstruction. It often happens that parents spend a good sum of money for the training of their children's voices, and in the end are disappointed with the result. When this occurs, it is generally found that there exists in the nose or in the throat some long standing disorder, the removal of which in the beginning would have saved the voices, and the scholar's time and the parent's money would have borne fruit.

Persons with an obstructed nose or throat seldom have a clear voice. They talk in a shrill, toneless voice, which is easily fatiguing and which frequently fails altogether. Europeans maintain that the voice of the average American sounds harsh and displeasing to the ear. This is true in many instances, and is largely due to the prevalence of throat troubles among us. Many throat sufferers are not aware of a defect in their voice. This is because their hearing is apt to be affected and they are not able to properly hear and regulate the sound of their own voice.

It is among growing children that the results of enlarged tonsils and adenoids are particularly apparent. Their face has a vacant look, the mouth is open and the little one appears to be inattentive and hard of hearing. The backwardness in learning on the part of these children is not the result of a natural inaptitude, but is due to diseased conditions in the throat and nose. Children with obstructed nose and throat sleep with open mouth and snore loudly, and their restlessness and night terrors are evidences that they do not enjoy natural and refreshing slumber. Every one whose nose has been obstructed by a cold in the head is aware of the lamentable effects of a night of broken rest. One wakes in the morning unrefreshed, peevish, and weary of the struggle. The head aches, the throat is parched and there is a feeling of general misery. This in a measure is how the little ones must feel night after night, until the obstruction is removed.

The chief purpose of the nose is to prepare for the lungs the air that is breathed. To this end it is provided with delicate apparatus, which both frees the air from impurities and at the same time tempers it to the heat of the body. Thus prepared, the air flows into the lungs, unirritating and bland. Mouth breathers are not benefited by this natural provision, because the throat is incapable of imparting warmth to the air or of freeing it from impurities. For this reason mouth-breathing children are extremely liable to diseases of the throat and upper air passages, and when they do become affected, they stand a poorer chance of recovery than children with unobstructed breathing organs.

With the passing of childhood enlarged tonsils have a tendency to disappear. The tonsils become flattened and shrunken and the tonsillar crypts are inclined to close. These changes by no means cure the tonsillar disease. On the contrary, they often aggravate it. It was formerly thought that a diseased tonsil is necessarily a large one. In children this is usually true, but not in adults. The most troublesome form of tonsil is the flat and submerged, with its ramifications deep in the neck. A large tonsil with open crypts is far less troublesome than a small one with closed crypts, for in the spaces of the latter decomposing and foul-smelling debris is apt to be retained, and this keeps the throat in an inflamed and irritable condition. Many an annoying cough and many an irritable throat and foul-smelling breath are due wholly to the tonsils. The debris in the tonsillar spaces often becomes hard and calcified and resembles rice grains. They feel like fish bones in the throat and produce a constant desire to swallow, and often they are expelled by coughing.

The treatment of chronic tonsillar troubles has for its end the destruction of the tonsillar tissue, and this can be done with the tonsillotome, the gouge, the snare or the cautery. When the tonsils are acutely inflamed their removal should not be attempted. They should be treated like any other acute inflammation. The intestines should be cleared and a fluid diet with plenty of milk should be ordered. The salicylates should be given at once and continued until recovery is complete. A mixture containing carbolic acid, grains 10, guaicol, drachms 1½, glycerin, drachms 2, and alcohol, ounce 1, can be used either as a spray or as an application. An application of 20 grains of silver nitrate is often useful, so is a weak solution of cocain and adrenalin.

Greber, of Jena, who has studied the tonsils, both in health and in disease, more than any one else, has come to the conclusion that in civilized life the tonsils are not only worthless, but dangerous. He urges that all children should have their tonsils removed, whether they are diseased or not, and he considers such a course as beneficial as vaccination for small-pox. It is certain that if his advice were followed, the high mortality among infants would be greatly lessened and numberless children would enjoy better health than they do. When we consider that among adults most of the chronic diseases of the nose, throat and ear date from childhood, the radical measure suggested by Dr. Greber must appeal to us all.

The public school authorities, recognizing the harm that comes from enlarged tonsils and adenoids, regard these conditions as they regard trachoma—a public menace—and insist upon their removal.

The unfounded prejudice that many parents have against the removal of their children's adenoids and tonsils is rapidly being overcome. They contend that the tonsils return after they have been extracted, and that the voice suffers through their removal. These contentions are based upon the incomplete removal of the tonsils and laceration of the soft palate, mistakes that are frequently made by operators who are not familiar with the anatomy of the throat.

The cure of tonsillar affections can only be accomplished by the complete removal of all of the tonsillar tissue that is diseased. Patients with irritable throats due to the tonsils can go to the best climate in the world without obtaining relief, as long as the offending tonsillar tissue remains.

When the tonsils are completely extracted they can never return, and the voice is usually benefited by this procedure, since the sounding board of the voice—the palate—is no longer weighed down by the tonsils. The celebrated prima donna Patti and countless other singers of note can testify to the benefits attendant upon the removal of the tonsils.

In removing the tonsils of children ether should be given if necessary, never chloroform. This relaxes the muscles and permits of the careful and thorough removal of the tonsils and of the adenoids at the same time. Many physicians make the mistake of simply taking off a slice of the tonsils and not removing the adenoids at all, and then they are astonished that the tonsils should again become enlarged in a few years.

Before removing the tonsils their consistency should be noted with the finger. If they feel soft and flabby, they can be removed without danger of hemorrhage. If, however, they are firm and fibrous, a snare should be used, rather than a cutting instrument, to prevent excessive bleeding. The tonsils should be separated from the faucial pillars by means of a blunt hook, then it can be raised from its bed and dissected out in its entirety.

After removing the first tonsil it is well to pause and see if the blood is properly coagulating. In bleeders, lack of fibrin in the blood keeps it in a fluid state and there is danger in proceeding with the operation.

If the tonsillar operation is attended by excessive loss of blood, a rectal injection of one or two pints of normal salt solution will soon restore the patient and shorten the period of convalescence.

After the operation the patient should be taught the value of hygiene and the proper use of the nose and throat.

304 Second Avenue.

COLD BATHS.

By R. W. Perry, U. S. N.,

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In the treatment of typhoid fever it has been found by past experience that the cold bath is the successful way of combating the temperature, providing it is intelligently given. Cold baths are as numerous as fingers and toes, and different doctors will recommend different kinds. While the object sought is the lowering of temperature, sufficient care should be taken not to chill the patient or cause an alarming fall of temperature.

In giving a bath to reduce temperature in typhoid fever, the alcohol sponge bath has been found to be agreeable and a good conveyance in lowering the fever from 1½ to 3 degrees, without leaving a serious aftermath. Alcohol and water are used in equal parts, in which a large piece of ice should be placed. Few physicians employ ice in the alcohol bath, yet it renders the bath doubly effective.

In applying this form of bath a thin film of water and alcohol should be allowed to collect on the body, the attendant or attendants in the meanwhile vigorously fanning the patient with towels. In the course of 25 minutes the object sought will have been accomplished and the patient resting much more comfortable from the treatment.

In cases demanding more heroic treatment, the ice-rub may be successfully used in place of the time honored cold tub bath. It has its advantages over the latter from the fact that the patient is less disturbed and complications unlikely to occur as they might where constant handling is necessary.

In preparing the patient for this treatment, the bed should first be covered with a gumsheet or oilcloth. Then a wet sheet wrung out of cold water should be carefully wrapped about the patient, allowing no flesh contact with the ice. Small lumps of ice may be packed near the body. In the meanwhile, the attendants should carefully rub the sheet-encased body with lumps of ice. The back should always be attended to last and the most time spent along the "heat citadel." An ice bag at the patient's head will also aid the work. If collapse appears, mild stimulation may be given and the bath continued. Fifteen minutes is the usual duration of this bath, but it is better to let the nurse use his or her judgment, having in mind always the reactive powers of the patient.

But best of all baths in this condition is the ice-water enema. This will reduce fever where all other baths fail. It should be given low, two quarts of water at a temperature of 65° F. being all that is necessary. No matter how severe the case, it has always been found to reduce the fever at least three degrees in ten times as many minutes. This is the best treatment of all, although it is not universally recognized.

DIABETES MELLITUS—A CLINICAL LECTURE.

By John V. Shoemaker, M.D., LL.D.,

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Gentlemen: I have the pleasure to bring before you this morning two interesting patients, having the same disease, which I believe is not due to the same pathological condition in both patients. They both suffer from diabetes mellitus, which, as you know, is a nutritional disease, characterized by copious secretions of urine, persistent glycosuria and followed by a progressive loss of flesh and strength.

The patient whom we will first consider is a male, fifty years old, nativity United States. He is five feet six inches tall, weighs now ninety-four pounds, instead of one hundred and forty-five pounds before his present illness.

The family history is negative as regards heredity. His father died of pulmonary tuberculosis and his mother's death was the result of an accident. The brothers and sisters living. As a child he had measles, whooping cough, scarlet fever and typhoid fever when in his teens. He claims that he enjoyed very good health until four years ago, when he first noticed that he was nervous, manifested usually by fear, was languid and exhausted often on the slightest exertion.

His appetite was poor, his sleep restless and he frequently suffered from attacks of diarrhœa, lasting from one to three days. In the course of two years' time his bowels became very much constipated, the urine increased in quantity, and his thirst was almost unquenchable. His appetite now became ravenous, nevertheless he gradually lost in weight and strength. Indeed, his physical condition is bad; the skin is dry, harsh and itches intensely at times. Pruritus of the genitalia annoys him exceedingly, as well as painful cramps in his muscles at night. His sense of hearing is much impaired, and while the pupils of his eyes respond to accommodation and light, yet his sight is very much dimmed. An examination of the heart reveals a mitral murmur best heard at the apex beat and transmitted to the left axilla and the apex of the scapula on the left side. No other abnormal physical signs could be elicited over the chest or abdomen.

The condition of his mouth is bad; the teeth are poor, many are absent and the gums around those present show pyorrhea-alveolaris. The tongue is fissured and has a beefy-red appearance.

The laboratory findings are as follows: Albumin negative, glucose positive, acetone present, indican marked reaction, specific gravity 1043, reaction acid, color straw, and odor sweetish. A quantitative analysis showed 3 per cent. of sugar present, while a microscopic examination revealed a few cylindroids and leucocytes.

Blood tests: Erythrocytes 3,208,000, leucocytes 6,028, hæmoglobin 65 per cent., color index 7 per cent. Bremer test for the presence of sugar in the blood revealed a positive increase of .20 per cent., the normal being .15 per cent.

Diagnosis.—The diagnosis of this patient as in all similar patients is quite easy. The gradual onset, the persistent presence of glucose in the urine, the acetonuria, the polyuria, the progressive emaciation, the harsh, dry skin, together with pruritus of the genitalia is a positive proof of a diabetic condition.

Pathology.—The true and correct pathological condition as regards the cause of this disease is still very uncertain. So many different lesions have been found at the post-mortem table of diabetic patients that many theories have been advanced as the result of such findings. In some the pancreas often is the seat of cirrhosis and fatty degeneration, while in others the liver is at times engorged and the seat of degenerative changes.

The kidneys usually reveal fatty degeneration, are hyperemic and show well marked chronic interstitial nephritis. Puncture of the floor of the fourth ventricle produces glycosuria, but the cases are rare in which lesions of this region have been found after death.

Etiology.—Owing to the insufficient knowledge of the true pathological condition and the cause of the degenerative changes in the different organs we are not able to infer the positive etiological factors. However, we regard a number of facts as predisposing causes, and believe it highly probable that diabetes mellitus results from a functional derangement of the pancreas and liver, owing to the fact that they both are engaged in the assimilation of sugar and starches.

Among the predisposing causes are heredity, male sex from thirty to fifty years of age, the Hebrew race, certain chronic diseases as syphilis, malaria and gout, nervous individuals are quite prone to the affection, nervous influences such as shock and mental anxiety; and the ingestion of large quantities of sugar are often the exciting cause of a functional diabetes mellitus.

Treatment.—The treatment of diabetic patients is chiefly hygienic and dietetic. The medicinal treatment is of course very essential, but without the proper diet medicine will not have the least influence for the good of the patient.

The hygienic treatment should include frequent bathing, especially with salt water, followed by friction to favorably influence the skin to act properly in its function of elimination. Woolen underwear should be worn the year round. Graduated exercise with plenty of sleep and rest is very essential.

The diet should consist of animal foods principally, meats of all kinds (except liver), game, fish and eggs. Vegetables, such as spinach, lettuce, string beans, cauliflower, tomatoes and onions. The bread should be made of gluten or bran flower.

This patient has been living on nothing but milk for the past three weeks, and during this time has gained more weight than in the previous three weeks. In some patients whose digestion is poor skimmed milk or buttermilk are better borne than fresh milk. Tea and coffee sweetened either with saccharin or glucose may be allowed as beverages. Starchy and sweet foods should especially be interdicted, owing to the faulty metabolism of the glucose in the blood.

Medicinally.—This patient received an occasional calomel purge to stimulate the liver in its functions. He also received a combination in the form of a capsule, containing:

℞ Creosote (beechwood)..........fʒss
Strychninæ sulfate...........gr. ¾
Salicini...... ....ʒi
Pancreatin...... ....ʒiss
Misce, fiant capsulæ........no. xxx
Signa: One capsule after each meal.

Secretin which is an extract obtained from the duodenum of the hog has been employed by a few men in England and Germany with fairly good results, but only when the patients were put on a restricted diet.

The next patient, a little girl, age eleven years, nativity United States. The parents and her three sisters living are in excellent health. One sister died from diabetes at the age of nine years. Her maternal grandmother died of diabetes and the grandfather of pulmonary tuberculosis. The paternal grandfather died of lobar pneumonia and the grandmother from septicemia. As a a child she had measles, whooping cough and typhoid fever at the age of five years. The mother's attention to her condition was first attracted by the frequent micturition, the pale color and the sweetish odor of the urine. She craved the sweet foods and partook freely of water. The mother claimed that she lost very little in weight, but grew pale in color. When I first saw her she looked very anemic, and had a few small boils on her neck. Her tongue was coated and the breath offensive. No other abnormal physical signs were present.

The urinalysis revealed albumin negative, glucose present, acetone present, indican marked reaction, specific gravity 1028, reaction acid, color straw, odor sweetish. The microscopic examination of the urine was negative.

Blood Examination.—Erythrocytes 3,800,000, leucocytes 6,800, hæmoglobin 65 per cent., color index .9 per cent. to each corpuscle. Bremer test for the presence of sugar in the blood showed a positive increase above the normal amount, which is .15 per cent.

Three weeks later the urinalysis and blood examination was as follows:

Urinalysis.—Albumin, negative; glucose, negative; acetone, a trace; indican, negative; reaction, acid; specific gravity, 1016; color pale straw; odor, aromatic. The microscopic examination was negative throughout.

Blood Examination.—Erythrocytes 4,350,000, leucocytes 7,200, hæmoglobin 80 per cent., color index .9 per cent. to each corpuscle. Bremer test for the presence of glucose in the blood was normal.

The diagnosis of this little girl's affection was established on similar findings in the urine, blood, and symptoms as that in the man. While her condition at first seemed grave, yet on treatment the urine cleared up readily.

It can be inferred that the trouble was only functional, probably due to error in diet and digestion. Since her condition is only transient we must not relax in the treatment, but treat her and all similar cases as though it were a true case of diabetes mellitus.

Her treatment, as in the man, consisted chiefly in the restriction of diet and hygienic measures.

Medicinally I placed her on a calomel purge at first, and after her bowels had been thoroughly opened I requested her to take a teaspoonful of the combination as follows:

℞ Strychninæ sulfate..........gr. ¼
Acidi hydrochloric dilut.........fʒii
Glyceriti pepsin (q. s. a. d.).....f℥iii
Misce. Signa: One teaspoonful after each meal.

The prognosis as regards to cure in the male patient is bad. I do not believe that he will ever become free from the disease, but his life, I believe, can be prolonged for many years.

The girl, I believe, will become entirely cured, but such patients should receive careful watch over their diet and habits. Their urine should be carefully examined from time to time, and upon the least suspicion of glucose in the urine they should at once be carefully and systematically studied and treated accordingly.

REMOTE EFFECTS OF GONOCOCCUS INFECTION, AND SOME OF THE LESSONS TO BE DRAWN THEREFROM.

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The object of this paper is to direct attention to some of the many complications and results for which a gonorrhea is responsible, as having furnished the primary inflammation from which they sprang, and to offer suggestions for the lessening of its spread and the inculcation of a more general knowledge of its infectious and serious nature.

In a broad way we may state the following to be true as to the final termination of a gonorrhea.

1. The total disappearance of the gonococci, the complete subsidence of the simple exudative inflammation caused by them, and the return of the parts to a condition of health.

2. The disappearance of the gonococci, but the engrafting upon the inflammation caused by them, other microorganisms, from either external or internal sources, giving rise to various complications.

3. The disappearance of the gonococci, but the changing of the simple exudative inflammation into an acute or chronic productive inflammation and the complications arising therefrom.

4. The gradual attenuation of the virulence of the gonococci, but their complete disappearance does not occur. They are harbored in the body, in the follicles and glandular structures of the affected parts, ready, however, to regain both their virulency and activity when transplanted to new soil, or when the so-called "resistance" of the host is no longer able to keep them in subjection; in the former case causing a gonococcus infection in a new host, in the latter a lighting up of the inflammation in the old.

In the consideration of the remote effects, those occurring in the male will be most dwelt upon, the writer feeling himself upon more familiar ground when so doing than when dwelling upon those peculiar to the female.

After a gonococcus infection of the male urethra, the acute symptoms having subsided, but the case not having terminated in a complete return of the parts to health, we may note upon examination with the endoscope or other instruments of examination, depending in large measure upon the length of time which has elapsed since the subsidence of the acute condition, various grades of inflammatory deposits, varying from granular or thickened patches to fibrous structures, contracted down so that, in many instances, complete retention of urine is established. If the retention is complete, and it is impossible to gain access to the bladder through the urethra, so as to draw off the urine, rupture of the bladder or of the urethra behind the stricture may occur, unless relief is given by either external urethrotomy or puncture of the bladder.

When the stricture reaches a degree sufficient to interfere with the free flow of urine, the likelihood of the complication increasing in direct ratio with the gravity of the stricture, there is often coexistent an involvement of the bladder, cystitis, in either its acute, chronic, or hypertrophic form being present; or an atony of the walls of the bladder, because of the retention of urine and their consequent overdistention; and following the path of the urine back we find at times that in one or both kidneys there exists either a pyelitis, pyelonephritis, or a hydronephrosis.

Ordinarily these inflammations are not gonococcic in character, at least no gonococci can be demonstrated in the majority of instances; but nevertheless, the gonococcus is in large measure responsible, because, as already mentioned, the inflammation caused by them furnished the starting point from which all the subsequent mischief arose.

The prostatic urethra is but rarely the seat of stricture, but it is a portion of the canal which causes a great deal of trouble, both to the patient and to the physician, once an inflammation has become chronically established there. The follicles of this region may have been invaded by gonococci, and though they may not have for many years given evidence of being present, it is still possible for them to be lying dormant in the depths of the follicles, waiting only for the physical condition of the host to reach a point where it is no longer resistant to gonococci, when they may again become active and give rise to various complications.

In certain cases the glandular structures of the prostate have been invaded, and during the acute stage, or in later years, an abscess may develop, but in any event the invasion of these minute glandular tubules by gonococci will result in a condition in which they may be harbored in a quiescent state for years, in all probability throughout the remainder of the patient's life, and upon provocation reinfecting the urethra and starting up a new gonococcus discharge.

The long continued irritating effect of a chronically inflamed prostatic urethra, or involvement of the structures of the prostate itself, is responsible for many of the enlarged prostates which are found in approximately 60 per cent. of men who reach the age of sixty.

A hypertrophy of the prostate involving either the so-called middle lobe, the lateral lobes, or the prostate as a whole, may become the seat of secondary tuberculosis, or may more rarely degenerate into a cancer;

its more common effects are, however, to be found in the symptoms of obstruction to the free outflow of urine, and to the sacculation of the bladder, to which it gives rise.

The complications of the bladder and kidneys, incidental to stricture of the urethra, are also incidental to hypertrophy of the prostate.

The seminal vesicles are not infrequently the seat of processes due to an extension of the inflammation, thus becoming involved in a catarrhal or productive inflammation, and giving rise to various disturbances of the sexual function, as nocturnal emissions, bloody semen, premature or painful ejaculation, sometimes great frequency of urination or a continuous pain upon urination which does not yield to treatment of any kind, except it be a surgical operation of considerable severity. Tuberculosis also may develop here upon the site of the chronic inflammation, though it is but rarely found localized exclusively in the seminal vesicles.

An extension along the vas deferens is a fairly common occurrence, but it never occurs without also involving the epididymis; the most frequent occurrence being a mild inflammation of the vas deferens, which more often than not clears up rapidly, in fact, is usually so slight in the symptoms evoked that it is readily overlooked; occasionally, however, it may attain a degree of much severity.

In common with many other parts of the body it may become the seat of a secondary tuberculosis.

While the vas deferens does not ordinarily cause much trouble the same cannot be said of the epididymis; it is quite frequently involved and causes a very considerable amount of suffering in the majority of cases. Such an inflammation may clear up without any further trouble, but, on the other hand, a small nodule may be left which in later years can give rise to a chronic epididymitis.

This process may extend to the testicle and cause also an inflammation of that organ, and rather more frequently than elsewhere in the urinary organs, both epididymis and testicle become tubercular, usually secondary tubercular foci elsewhere in the body, though occasionally of primary origin.

In certain cases of sarcoma and epithelioma of the epididymis and testis, the prior inflammation of those organs laid the groundwork, in all probability, for the later growth of those neoplasms.

Hydrocele, either acute or chronic, is often a development accompanying these complications.

Fortunately, the bladder is not very frequently infected with gonococci; the role which they play is that of causing the primary inflammation, which works back and involves the posterior urethra and a small segment of the bladder surrounding the internal orifice of the urethra; coincidently or perhaps later other microorganisms make their appearance from either external or internal sources, multiply, cause an inflammation of the walls of the bladder, giving rise to the condition known as cystitis, the gonococci in the meanwhile having, in the majority of instances, disappeared. This condition may clear up after the acute stage, or may go on and become chronic, in which case the cystitis may be further complicated by stone in the bladder, hypertrophy of the middle lobe of the prostate, or by a hypertrophic condition of the walls of the bladder. As has been said before, such a cystitis may extend up into the pelvis of one or both kidneys, through the ureters and there give rise to pyelitis, pyelonephritis, or hydronephrosis.

Gonorrheal arthritis, or more commonly gonorrheal rheumatism, is not at all an uncommon occurrence; it is due to either the absorption of toxins elaborated by the gonococci, or to the lodgement and growth of gonococci themselves, in some one, occasionally more, of the joints and seems to be brought about by a break in the continuity of the infected mucous membrane, allowing the cocci to gain access to the circulation of the body.

The exudate about the joint, caused by the growth of the gonococci, is serious in character, but if other organisms occur together with the gonococci, the exudate will be either seropurulent or purulent. Such an inflammation occasionally assumes a degree of severity which threatens the further usefulness of the joint, and indeed a joint occasionally becomes ankylosed and is then no longer capable of performing its normal function.

The infection of the eye with gonoccocci is especially dangerous, as the sight of the eye may very easily be lost, the inflammation is very severe, and the danger alluded to above is ever present until it has completely subsided.

In infants a gonorrheal ophthalmia may occur, and in little girls a gonococcus vaginitis, if the mother has had a gonorrhea prior to the birth of the infant. In the case of gonococcus vaginitis, however, it has been found that the little girls have been more frequently infected subsequent to the time of their birth, through the intermediate agencies of sheets, washrags, towels, etc., used by the mother.

This is a pretty serious matter, when one considers that little girls a few weeks old and upwards have become infected, and the inflammation extending into the uterine cavity, or out into the tubes and ovaries, has been the cause of sterility when they reached womanhood, because of changes which had taken place in the endometrium in the first instance, or pyosalpinx peritonitis and even death in the second.

Cases are also on record of finding the gonococcus in the endocardium and playing the role of active causative agent for the endocarditis present. They have also been found in the meninges of the brain and in various other places in the body.

We have purposely left out of this paper any extended consideration of the remote effects in the female, but, in passing, it may be said that of the operations performed upon women, for diseases in connection with the genito-urinary system, authors variously estimate that from 60 to 75 per cent. are because of pathological conditions caused by the gonococcus.

It has not been intended to write exhaustively of the various inflammations already spoken of, but rather to bring to notice, in concrete form, the far reaching results of gonococcus infection, the multiplicity of complications, and the great seriousness of these complications, and to ask the following questions:

Of what significance are these far reaching results?

What lessons are we to draw from this array of complications?

It seems to me that these facts are significant of neglect, or insufficient treatment, and an inadequate knowledge, on the part of the patient, of the true character of the trouble from which he suffered, both as to its infectiousness to others and to the great variety of complications possible in himself.

This condition of affairs no doubt arises in many instances because of the youthfulness of the patient. He is, because of his youth, in the majority of instances, dependent upon some one for support, and knowing the probable source of the trouble will hide, if he can, any knowledge of his state from those who would help him, and has resource to some one or more of his youthful friends, perhaps as ignorant as himself, as to the true nature and danger of the infection, or to the druggist for advice and treatment, or does not have any treatment at all, the disease either becoming well of itself or going on to chronic, with the possibility of any of the complications already spoken of appearing sooner or later in his life.

There is a deplorable ignorance also of the nature of the disease on the part of many men, due to the false ideas which have been handed down from one generation to another, as to the ease with which a person should recover from an attack, the absence of knowledge of the ease with which it is acquired, and to the false idea upon which the sexual life of many men is based, namely, the necessity of man, in order to maintain his health, to violate his virtue before his marriage.

There are many parents who are not fulfilling their full duty to their children; they give them careful training, perhaps, as to diet, regulation of the intestinal function, cleanliness, and as to their general education, but they turn them out into the world ignorant of the pitfalls of a sexual nature which beset the path of any young man or maid; their knowledge, such as it may be, is gleaned usually from other boys and other girls, or some vicious minded man or woman, and must be of course faulty in very many respects.

Most youthful patients are of hopeful nature, will look upon the bright side of the picture, and will be unwilling to believe that any inflammation can take such hold upon the system that their whole future life may be more or less influenced by it.

It is perfectly true that the vast majority of men who have suffered from a gonococcus infection have gotten well, have married, have not infected their wives, and have never suffered any recurrence of complication to their knowledge, but, nevertheless, a certain number of cases do not follow the natural course of disease in the body, which is to go on to recovery, but to become chronic and cause one or more of the many complications which have been spoken of in the first part of this paper. But who will presume to say which course the disease will pursue in any given case!

What lessons are to be drawn from these considerations?

They may be summed up as follows:

The necessity for the education of the youthful mind to the knowledge that any unusual discharge from the body, no matter what its source, is ample cause for the one so suffering, to seek the advice of a physician. This knowledge should be imparted to the child by its parents at the earnest solicitation of the family physician.

That health is most to be desired, and that concealment of a begining disease may in the long run lead to something very serious.

The urgent need for the dissemination of knowledge amongst the laity of more mature years of the serious nature of the malady.

If this course were persisted in for a number of years there would grow up a sentiment amongst people that this education was a duty they really owed to their children.

Necessarily such a sentiment would be of slow growth, inasmuch as it is a subject difficult to approach in children, and yet experience has shown that there are ways of doing it nicely and yet not arouse in the child any undue curiosity about such matters in general.

Another source for good might also be enlisted if our druggists were informed as to the real nature of gonorrhea (and syphilis). Not all but still a good many druggists feel themselves competent at the present time to treat this class of cases, and I believe this attitude is largely due to an inadequate knowledge of the disease and that did they fully realize its true nature they would no longer attempt its treatment, but would see that patients were placed in the proper hands for advice and treatment.

Consequently my recommendation along this line is that at some time during the course of study, which a pharmacist is obliged to pursue in order to obtain his degree, it would be well for the nature of the diseases of gonorrhea and syphilis to be placed before him in a concise but comprehensive manner, so that when he is brought in contact with these diseases he will be properly equipped to give the patient intelligent advice as to the nature of the disease and the best course for him to pursue as to treatment.

In the work of education, advice and enlightenment among the young men and women it would seem that the enlistment of the powerful influences for good existing among the various religious bodies, because of their intimate relationship with the members of their organizations, through their clergy, sisters and lay workers, would prove of enormous advantage in the furtherance of the dissemination of knowledge of this character.

The moral side is well enough taken care of, no doubt, but the physical side is one from which, seemingly, the exponents of all faiths have fought shy.

In this city there are a sufficient number of free dispensaries for the treatment of all the various diseases,of an ambulatory character, so that if perchance a patient suffering with gonorrhea or other disease is without funds he need not suffer for lack of treatment. Between all the private physicians and the dispensaries there need be no excuse for a patient not receiving proper treatment whenever it is necessary.

In the conclusions reached above we have, if only they could be carried out, a means of curtailing many of the serious evils which attend the disease and of very materially lessening its spread.

To reach such results will come only with the lapse of time, but if we work along these lines and push the matter energetically the sooner will the desired results be obtained.

No. 147 West 72d Street.

DIET AND COMMON SENSE IN THE TREATMENT OF ADVANCED DROPSIES.

By W. C. Abbott, M.D.,
Chicago, Ill.

Some years ago I received a call to visit one of Chicago's multimillionaires. He was confined to his bed, his limbs and abdomen distended with dropsy, his heart dilated, his urine loaded with albumin. The lips were cyanotic. The dyspnea was extreme. Investigation showed that the heart was also degenerated. I was informed that the physicians who had been in attendance had enjoined upon the patient the duty of flushing his eliminants by imbibing at least a gallon of water each day. His tissues were simply water-soaked, and his diseased heart laboring to move through the relaxed vessels the immense mass of useless fluid present in his circulation.

He was given a series of enemas consisting each of half a pint of saturated salt solution, and restricted to four ounces of fluid every six hours. His diet, besides this, consisted of a teaspoonful of meat powder every six hours. The fluid permitted was what he preferred each time, tea, coffee, fruit juice, pure water, or milk. But he was enjoined to take fifteen minutes to consume the four ounces allowed. If he felt thirst at any other time he was directed to chew gum.

Under this treatment the output of fluid each day largely exceeded the intake, and a condition nearing equilibrium was soon secured. Great relief ensued, and at the next visit the patient had moved from his bed to the easy chair. The dyspnea had subsided, and the cyanosis was less marked. While the condition was not one susceptible of cure, and the malady too advanced to admit of very long life, the patient at least secured a precious alleviation of his misery, and passed some months in peace.

The prescription of free water-drinking had evidently been inspired by the obvious need of promoting elimination. I have so frequently and so strongly insisted on the importance of elimination, through the use of water in my writing, that it may seem singular to see me now objecting to it; but there are limits to the application of every rule of practice. The mechanical difficulty hampering the heart was here the primary indication to be met, and this was best met by reducing the bulk of the blood so as to lessen the burden placed on the laboring organ. Draining fluids from the bowels lessened the bulk of blood and the pressure out from the blood vessels into the cellular spaces. The cautious administration of digitalin restored normal tone to the relaxed vessels; and this further reduced the work of the heart, much of whose strength had been expended in dilating the flabby vessel walls.

The indication of elimination in such cases is best met by so regulating the diet that there shall be the least possible formation of toxins to be eliminated. Give such food as is required and will be utilized; give it in such shape that it will be at once digested and absorbed, and this may necessitate the use of artificial digestants. The freeing the bowels removes toxins and prevents the absorption of the most dangerous toxins into blood. If this is done the remaining powers of the body can usually take care of what we cannot prevent or move directly. It is the surplus that exceeds the bodily powers that we have to clear away.

A FEW REMARKS ON BROMIDROSIS.

By Ralph Wait Parsons, M.D.,
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Ossining, N. Y.

Bromidrosis is an affection which the physician is, from time to time, called upon to treat. It may be idiopathic in origin, or it may be observed in persons in whom the general health is more or less impaired, and is seen, at times, in women of a nervous constitution. It may also occur as a symptom in the course of certain diseases, such as scrofula, rheumatism, syphilis, insanity, etc. It is generally associated with more or less hyperidrosis, but the quantity may be normal. The affection is due to a functional disorder of the sweat glands, or to a peculiar form of rapid decomposition of the sweat after it has been excreted. The odor may be merely disagreeable, or it may be very pungent and offensive.

It is interesting to note here that according to an article published in the New York *Times* some time ago, a Japanese physician has again called attention to the fact that there is good reason for the belief that each of the races of mankind has its own peculiar odor (race bromidrosis), which, however, is modified to a certain extent by dietary and other conditions. The *Medical Record* of June 18, 1904, commenting editorially upon the matter, says that there is probably some truth in the statement, and points out the fact that the custom of some of the Occidental races of habitually consuming large quantities of meat and of alcoholic beverages may possibly be a contributing cause of the strong peculiar racial odor.

In treating this condition, attention should be directed to the improvement of the general health by diet, baths, exercise, etc., and if any constitutional disorder exist it should receive the proper treatment. The baths should be taken frequently and some sort of mildly stimulating soap should be used, such as tar soap. I will not enter here into a description of the proper methods of taking the different forms of baths, as this subject was carefully discussed in an article published by me in the *Medical News* of Sept. 29, 1900, entitled "The Art of Keeping Cool, with Special Reference to the Proper Use of Water."

Numerous drugs have been recommended for hyperidrosis and bromidrosis, such as belladonna, oxide of zinc, etc. Crocker states that in his experience the most efficient remedy is precipitated sulphur, which he administers twice daily in milk, in doses of a level teaspoonful. Should these doses tend to cause too much relaxation of the bowels, the sulphur should be combined with astringents. In parts of the body where local hyperidrosis and bromidrosis occur together, as where adjacent surfaces come in contact, as in the axillæ and in the region of the genitals, the skin, after being dried after the bath, should be thoroughly dusted with a powder, such as talcum, bismuth, boric acid, or equal parts of amyl and powdered chalk. The following is of service:

℞

Powdered camphor........	2 drs.
Acid Salicylic.............	2 drs.
Amyl.........................	2 oz.

M.S. Apply as directed.

The most common form of local bromidrosis that the physician is called upon to treat is the condition commonly called fetid feet. It is not an uncommon condition among laboring classes, or in those whose occupations require them to do much standing or walking. It is also frequently observed among soldiers. The affection is usually idiopathic. The amount of sweat excreted may not be very large, but in some cases it is so abundant that the socks and even the inside lining of the shoes become quite wet. The offensive odor which is a marked symptom in the disease varies in different individuals, but in some persons it is so overpowering that it renders them unfit to mingle in society, or to undertake any indoor occupations.

Besides the constitutional treatment for bromidrosis already described, the local treatment of the disease, when of idiopathic origin, will, as a rule, speedily yield to the following:

1. The patient should be instructed to wash the feet on rising and before retiring with hot water and tar soap. They should be allowed to soak, for fifteen or twenty minutes, in water as hot as can be borne with comfort. The water should extend above the ankles and should be kept hot by adding fresh supplies as needed. The very hot water not only acts as an antiseptic and disinfectant, but also tends to restore the normal functioning of the sweat glands.

2. The feet should then be thoroughly dried with a piece of soft cotton cloth, especially between the toes. The rag should be burnt after using.

3. The feet should be thoroughly powdered with salicylic acid, care being taken also to apply it between the toes. The toes should be kept from touching each other by means of thin layers of absorbent cotton. In a day or two, owing to the mildly counter-irritating effect of the salicylic acid, the epidermis usually begins to peel off, especially around and between the toes. As the parts may become tender owing to this denuding of the tissues, the use of the salicylic acid should be discontinued for a time and an ointment consisting of lanolin seven parts, and olive oil one part, should be applied. Should the salicylic acid prove to be too irritating, boric acid may be used as a substitute.

4. The patient should put on a clean pair of socks every day during the period of treatment. The same pair of shoes should be worn, if possible, only once in two or three days, in order that the inside linings may become thoroughly aired and dried before being again worn.

If the treatment above outlined is carefully followed, the skin of the feet will be apparently in a normal condition in many cases in a few weeks. Care, however, should be taken to wash the feet frequently with hot water and tar soap in order to avoid a recurrence of the affection.

According to Crocker, Thin's plan is to dredge boric acid, very finely powdered, into the stockings and boots every day, and to put in the boots cork soles, which should be washed and disinfected in boric acid lotion daily. Crocker believes this method to be one of the best, most cleanly and convenient forms of local treatment.

Patients who are unable, or unwilling, to undertake the treatment herein described could adopt with advantage the method which, according to the authority above mentioned, is almost universally used in the German army. This consists of mutton suet and two per cent. of salicylic acid, which is rubbed on the feet and has the advantage of keeping the feet well greased and also securing the beneficial effect of the salicylic acid.

THE MECHANICAL AND CHEMICAL EFFECT OF MILK ON THE HUMAN.

By Arthur E. Gue, M.D.,

Detroit, Mich.

Milk is the normal secretion of the mammary glands of all mammals, and the milk of all mammals has a similar composition, consisting of fat, sugar, albuminoids, mineral constituents, and small quantities of other compounds. The milk of the cow has been studied in greater detail than that of any other animal on account of the extended use of this animal's milk and the products derived from it as human food. Our knowledge of the chemical composition of cow's milk is indeed very complete, while studies, more or less incomplete, have been made of the milk yielded by woman, the goat, the ass, the mare, and the sheep. While there may exist a wide difference in the sustaining qualities of the mammary secretion of different animals as applied to man, this difference will be found not only in the chemical properties of the milk, as given by chemists, but we will also add that there is a mechanical effect which milk produces on the human tissues that must not be lost sight of; there is also a vitality which the animal has which produces the milk that is essential; this vitality is marked by certain characteristics which are all important and to which we will refer later. Briefly, our scheme is to show the mechanical and chemical effect of milk on the human and why the Holstein Friesian cow is the food producing ideal. While the chemistry of the different constituents of milk is only in its infancy and it may seem premature to discuss such at this time, still for the purpose of this paper it will be quite necessary to hint at some of the obscure truths. A word first as to the individual constituents of milk: the fat, for instance, is of peculiar and complex composition; it differs from other fats in that it contains compound glycerine; it exists in milk in small globules and each globule is surrounded by a true membrane; now, this last is a proven fact and I would ask you not to debate it for the present but bear it in mind for future use in the study of this paper.

The sugar of milk is also of peculiar nature; that of the cow's milk is called "lactose," or, more commonly, sugar of milk. It is generally assumed that all milk contains the same sugar, and while it may be so, it is a fact that the sugar of one animal seems to have a property not found in that of another; for instance, the sugar of the milk of the mare has the property of easily undergoing alcoholic fermentation, a property not possessed by the sugar found in cow's milk; so also is it a fact, as stated by Carter, that the sugar of the human milk is not identical with that of the milk of the cow, though the properties seem to be the same. Again, we find that milk sugar exists in several modifications, which are distinguished from each other chiefly by their behavior under certain atmosphere, even polarized light being sufficient to break up milk sugar into a modification of itself. Our present knowledge of the albuminoids of milk is far from complete, though much work has been done on the subject; this is due to the fact that it is extremely difficult to obtain these compounds in anything like a state of purity; the milk albuminoids are bodies of complex composition, containing carbon, oxygen, nitrogen, hydrogen, phosphorus and sulphur; the way in which these elements are combined is not known, but that they exist differently in the milk of different animals is a fact borne out clinically rather than chemically; it is this fact that undoubtedly suggested the comprehensive term "Vitality" to Prof. Carlyle, as related by Mr. Cortelyou in his address of the 20th annual meeting of the Holstein-Friesian Association; it was this fact that Prof. Holt had in mind when he said that in infant feeding there is a difference among the different breeds; it may be slight, but that difference is shown on the delicate human organization, and to my mind, he must have had the Dutch cow in mind when he said, select a large, strong, healthy cow and the little difference will not be noticed, and follows up by cautioning the student concerning the fact that tuberculosis is more common in the Jersey than in any other breed. Taking up once more the albuminoids, we repeat that they differ in the milk of different animals; they may be divided broadly into two classes, those like the cow and the goat, which give a curd on the addition of an acid, and those like the human and the mare, which do not. Now, the curd found in the cow is composed of casein, which is composed in the main of earthy phosphates, the presence or absence of which causes the difference in the albuminoids of the two classes. Besides casein there exists in all milks a second albuminoid, called albumin; this differs from the casein by not being precipitated by acids, but will be coagulated by heat. There are other albuminoids described in milk, but enough has been said, excepting to allow me to reiterate that the elements found in the albuminoids vary in different animals and this without disturbing the general complex make-up of the milk.

Salts. Henkel and Bechamp are about the only authority; they admit the presence of potassium, calcium, chlorides, phosphates and magnesium; Henkel has gone so far as to find an organic acid (described as Citric acid), which he has found at times in some samples of milk and, while this result is not universally accepted, for the sake of future reference please keep this point in mind. If you can only see with me that the atoms composing the different elements of which we have been talking are so delicately arranged, and the molecules built up in so complex a manner that they cannot be disturbed, you would then understand how even a slight change in some one element would make a vast change in the whole. This is so to such an extent that in the large percentage of cases where the milk is modified the child or invalid does not thrive. By some writers it is said that the reason that the milk of Jerseys does not agree with subjects of low vitality is that it is so rich in fat that when in combination with the digestive ferments it produces a substance that is absolutely toxic; this I feel is not quite true; the difference we will find to be a physiological and mechanical derangement, physiological in the fact that it is impossible for the large membranous covered fat globule of the Jersey to crowd through the microscopical cells of the digestive organs, which they do when assimilation is perfect, and if forced will indeed produce an active mechanical irritation resulting in numerous disturbances of the alimentary tract; while with the Holstein's milk the fat globules are so small that they readily pass by endosmosis through the cellular tissue. Prof. Holt, in his summary from figures compiled from sixty thousand analyses collected by Mr. Gordon, of the Walker-Gordon Milk Laboratories, made from the American grades and common natives, says, leaving out the Jerseys, the average of the different breeds of cows are remarkably uniform in their total solids; now, if it is a fact that there is little difference in the component parts between the Holstein and other dairy breeds, wherein are we to lay claim to this superior vitality in the Dutch milk; in two ways: first, the chemical combination of all the elements of the milk; in one breed this combination will produce one result, while in another breed these elements combined will produce entirely different results; in other words, in one breed these elements are happily combined, while in others these same elements are opposed. How is this so? Well, just as one manufacturing pharmacist will make a certain preparation composed of two or more ingredients; the results when given to the body are good; another pharmacist analyzes the product and prepares as he thinks the same, but the result on the body is disastrous. Why? Because there is that lack of what is known in medicine as a happy combination; now so it is between the different breeds; it would be so easy although all the elements are present in a certain milk that there might be that lack of harmony which would change the final sum. For instance, diamonds and charcoal, chemically the same, but such a gross difference in the completed substance. Now, what would produce this lack of harmony in the different elements of milk in the several breeds (another claim to superiority) *i.e.*, the breed itself; the quality in a breed is one of the most important factors, and that which influences most of all these factors is, first, the duration of the purity of breeding without admixture of alien blood, and second, the uniformity of type and the inherent vigor of that type. It is doubtful if any breed of cattle has been bred pure for a longer period than the Holstein, and the inherent vigor of the breed is indisputable; it matters little with what breed or type a Holstein bull is mated the offspring is almost sure to resemble the sire markedly in characteristics, particularly so in color; now I speak of this propotency because it is the vital factor in holding all of the delicate arrangement of the molecular formation of milk in happy relationship! On the other hand, take a breed of delicate constitution, nervous and predisposed to all outside influences; are they not more apt to cause an unbalanced condition of all those elements that go to make up the milk? If this is not so, then how are you going to explain the fact where a hospital full of patients (ranging from infancy to old age) fed on the milk of a certain breed, no matter how diluted or modified, failed to thrive; but when changed to the milk of the Holstein-Friesian a marked change was shown. I do not think I am presuming too much when I say that it would not be unreasonable to expect in two different milking breeds where all the elements of this great chemical combination are practically in the same proportion, yet one ingredient not up to standard (low grade of phosphorus of poor sulphur, for instance), that one would sacrifice the whole. In other words, the difference in the digestibility of one cow's milk over another is dependent upon the difference in their molecular arrangement and not whether they are rich in fat or not; the time is not far distant when the boards of health and city governments will insist not on a high grade of fat, but on a high grade of solids, a fine molecular combination and few bacteria, as most hospitals do now. Right here, it might be patent to add, that a Walker-Gordon representative replied in answer to my question: If left with no other means of feeding infants than raw cow's milk, what breed would you choose? "Holstein," because it comes nearer a balanced ration than any other. To the Holstein breeders I will say you have in your breed all that can be desired for the production of a pure food product, to say nothing of other grand qualities; so don't waste your time trying to breed an absurdly high per cent. of fat to the detriment of inborn qualities, qualities that have made the Holstein-Friesian the head of all dairy breeds.

DAIRY HYGIENE, OR BETTER MILK SUPPLY.

By S. B. Nelson.

Pullman, Wash.

Ten years ago the milk furnished to the public by dairymen or the individual cow owner was, as a rule, of very poor quality, and, indeed, was also quite as far from being clean. That this condition existed was so firmly impressed upon my mind, as I from time to time visited the dairy farms and private cow stables, that at the meeting of this association, first held at North Yakima, Washington, I discussed the subject of "Stable Hygiene, Dirty and Clean Milk," and I can yet see the varied expressions of disgust and disbelief at my discussion of the existing conditions as I had found them, as I looked into the faces of that audience.

For a number of years following this it seemed as if the subject of pure milk was not of sufficient importance for anybody else to aid in the education of the public, so that they might see the necessity for and demand a change of these conditions. So very few knew at that time the very important relation that dirt as a carrier of disease producing bacteria bore to a pure milk supply that it was of but little wonder that the public interest in this really important subject was at a very low ebb.

Still there was hope. Every now and then, after speaking upon this subject, to me an all important one, at some farmers' institute, dairy association meeting, stock convention, or other societies, there would, after the meeting, come to me some of the members of the audience, very often women, and in private conversation corroborate my discussion of the dairy conditions as they had personally observed them. Often they would ask of me specific advice as to how these conditions might be remedied.

Consequently, as this relation of bacteria carrying dirt to healthfulness of milk became more generally known, the interest in the subject of pure milk supplies grew greatly. You know all classes of people are really very much interested in this question—the grower on the one side and the producer on the other. The question, aside from this, is to be looked at from two points of view: one the purely esthetic, that of cleanliness; the other is that one from the standpoint of an injurious food product which may and does at times cause much sickness and many deaths among infants and children. The esthetic point of view, cleanliness for the sake of cleanliness, was really given very little consideration by either party. The second one, however, became very important.

The principal factor in determining whether the milk was healthful was whether or not the milk would keep sweet for a sufficiently long time to satisfy the demands of the housewife. Here then was presented the most important question which could concern the dairymen at that time: How shall I keep the milk sweet for the length of time that the housewife demands that it shall be kept sweet? And right here is where a number of the dairymen made an error for the time being, either wilfully or through ignorance.

They determined at that time to fix the milk so that it would keep sweet, and possibly not understanding the question, they said to themselves, "We will put something into the milk that will keep it sweet," and surely they did, and it worked beautifully for quite a period of time, as far as keeping the milk sweet was concerned.

But a more serious question arose. It soon became apparent that the small infant who, because its mother could not nurse it naturally, had to drink this "preserved" milk, was becoming sickly, the milk at times proving fatal. Public opinion took strong cognizance of this condition, and in its wrath demanded that this outrageous condition of affairs cease immediately. And therefore we have now on the statutes of Washington a law which makes it a criminal offense for anybody to offer for sale milk with the preservative formaldehyde in it. This was a long step toward the acquiring of a pure milk supply, thanks to the members of the Washington State Medical Association and the State Dairy Association, who gave their aid to have this worthy law passed.

Next followed the period of pasteurization. This had many good points in its favor, especially if the milk was to be used for cooking purposes nearly immediately. But it was not nearly so good for the young child, because the high temperature to which the milk had been subjected during the pasteurization had to a large degree killed the ferments present in the milk, or as a physician aptly remarked, "The milk was dead." And how could you expect to raise a healthy, lively baby on dead milk? As a rule, young children never did do as well on pasteurized milk as they did on raw milk.

Here then occurred the psychological moment for a great change in the condition of the milk supply. All at once it seemed as if the matter had come to a focus as a result of the many discussions in State Dairymens' Association, in the county and the State medical societies, of the campaigns that the newspapers, both the city dailies and the farm journals had made, and at last these efforts were to bear fruit.

The fact became apparent to nearly everybody that all the things that were being done to give the public a pure milk supply were being done backwards. This fact flashed out like a star in the night with the bare truth staring us in the face, that if the sterile or nearly sterile milk which is taken from the cow's udder is kept so, or nearly so, then there would be no need of strainers, old or patent, poor or good, for preservation by the addition of formaldehyde with its injurious action on the digestion, or for the pasteurization of the milk, which kills the ferments and thus partially ruins the milk as a food for young children.

In other words, the milk as it comes from the cow is a most proper and healthful food in every respect. It is to obtain the milk and to preserve it in this manner that so many dairymen in the State are at the present time having their herds tested for tuberculosis, are having more windows placed in the barn so as to increase the light and ventilation; that they are currying the cows and washing such parts of them as are necessary; that they are using sanitary milk pails and milk stools; that they are cooling milk to as low a temperature as possible immediately after milking, and that they have even quit feeding the cows before milking them and now do not feed them until after they have been milked.

These are the improvements that have been established and carried on to a greater or less extent by nearly all of the dairymen of the State, and, which have caused a very prominent physician, who is intensely interested in the pure milk question, to remark to me recently, that the conditions of the dairies in the neighborhood of his home city were at least 50 per cent. better than they were five years ago.

I believe this is true: that there are more than fifty dairies in the State that are striving to their utmost to give to the public a pure milk from healthy cows, expecting, of course, the remuneration of which the better milk is deserving.

At the present time there is absolutely no doubt in my mind that within the next decade, through the united efforts of the dairymen running sanitary dairies, the family physician whose words of advice are eagerly asked for and which have great influence in the home, the campaign of the newspapers, the activity of the city and State officials whose duty carries them into this work, and through both the individual and co-operative work of the mothers of Washington, and last and best of all, through that good precept, "Do unto others as you would have others do unto you," will we reach the realization in this State of a worthy milk at a worthy price to keep the baby healthy.

VINCENT'S ANGINA.

By Leonard D. Frescoln, A.M., M.D.,
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In the text-books very little is said of a form of Stomatitis with a dirty whitish membrane here and there on the buccal mucous membrane and lips, with retraction of the gums and bleeding. In a spread from these cases are found principally the fusiform bacillus, long spirilla very plentifully, and other organisms, especially micrococci.

The disease seems to be readily communicated from child to child when it gains a start in a large hospital. In a well advanced case there may be considerable destruction of the soft palate, tonsils, buccal tissues, and even a gangrenous appearance about the gums, with finally a slough resembling somewhat noma. Such may be the termination of a case. The ears may also be involved. When far advanced, and when destruction of tissues has taken place, it presents the appearance of a syphilitic lesion. Sometimes in these cases in which an early slide showed the organisms above named, there is also associated a diphtheritic organism. With this picture of cases, a few words as to their management.

In the first place, cases are seen where scrupulous preventative means have been instituted, such as boiling of spoons, cleansing of the mouth with boric acid. The patches on the oral mucosa and tongue have been treated with potas. chlorate mouth swabbing (gr. x to oz.), hydrogen peroxid, and silver nitrate applications, with varying results. Others have used magnesia, iodin, etc.

It seems to me that the course of the disease indicates rather a stimulating treatment than irritative or cauterization. Too much interference may provoke further bleeding. In addition, give a well selected, nourishing diet, not requiring too much mastication, such as egg-custard, broths, etc. Isolate and ventilate. The milder cases at least will then respond.

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THE
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THE DIET OF TO-DAY.

PROFESSOR HALLIBURTON, lecturing to a large audience at the Incorporated Institute of Hygiene, London, on Wednesday afternoon, January 9, 1907, on the subject of "The Diet of To-day," defended a full diet and expressed the opinion that it was safer to eat rather too much than too little.

In opening his address he said it was necessary, in any attempt to consider the large subject of diet, to limit himself to the consideration of a few questions of fundamental importance and, among these, the experimental work recently carried out by Professor Chittenden in America stood in the first rank. The main conclusion Chittenden had reached was that the consumption of albuminous food by the meat-eating nations was much too high, and ought to be reduced from the standard set by Voigt of 100 grames daily to about half that amount. Albuminous, nitrogenous or proteid food is essential for the repair of tissue waste, and by many the terms nitrogenous and nutritious are regarded as synonymous. This, however, is a mistaken idea, for the nonnitrogenous foods (starch, sugar, fat, etc.) are equally necessary, although they are mainly utilized in another way, viz., as a source of energy and animal heat. Milk is a perfect food because of the admixture it contains of both classes of nutriment, but milk that has been tampered with, as in the preparation of many patent foods, loses its perfection when certain classes of its food constituents are removed from it.

There can be no doubt that a large amount of the proteid food we take is not utilized for tissue repair, but is rapidly cast out of the body as waste material and this throws undue work on the digestive and excretory organs. The majority of well-to-do people doubtless sin on the side of excess, and a reduction of the meat eaten, as of the alcohol consumed, will be a feature of the diet of the future.

At the same time it is probably not wise to accept Prof. Chittenden's views to the full; for the minimum diet is not necessarily the optimum. The lecturer instanced the dietary of the poor in large cities, and the low nitrogenous intake in vegetarian nations, and stated that such people show less resistance to privation and disease than meat-eating people. He further pointed to the beneficial effect of good feeding in the open air treatment of consumption, and in the rest cure for various nervous disorders. He was of opinion that the limitation of the amount of proteid to subserve the repair of tissue waste would be living dangerously near the margin, and quoted the statement of Dr. Loathos, who has pointed out that, in infants, ten times the minimum quantity of nitrogen necessary for this purpose was provided by nature in their proper diet of milk, even allowing for growth. The real explanation of the usefulness of an apparent excess is that certain constituents of the proteid molecule are particularly essential for the building up of the tissues; the amount of those necessary constituents is very limited in the proteid molecule, and in order to obtain an adequate supply the body has to put up with a good deal of waste substance, but the large size of the liver appears to be an express provision of nature for dealing with this waste rapidly.

The easy digestibility of the proteids of animal origin render them superior to those from the vegetable world, and the so-called vegetarian has had, perforce, to recognize this by adding to his diet three of the richest products from the animal kingdom, viz., milk, cheese and eggs. Vegetarianism in this sense would no doubt spread if the standard of cookery was raised, but bad cooking of vegetables renders them more indigestible, whereas bad cooking of animal food does not possess this disadvantage so markedly.

In reference to the Japanese the lecturer pointed out how sadly needed are accurate details of what this nation exactly does consume. There is no doubt that within recent years, their vegetarian habits have been largely departed from, and such writers as Lafcadio Hearn have, in part, attributed their recent vigor and success to this very circumstance.

THE SUMMER DOCTOR.

The season approaches when many of our city physicians will make their annual pilgrimage to the small country towns and villages which shelter and afford amusement and renewed health to the summer boarder. There is something in this leaving the city by so many physicians in the summer for the purpose of engaging in practice that seems unfair to the resident medical man who struggles through the nine months of the year on a meagre income looking forward to the coming of strangers from whom he may gather a few well earned dollars for services to those unfortunate enough to get sick while away from home. But this hope is often unrealized, for with the strangers comes the city physician who is active in seeking these same dollars. Not only the strangers in such places often prefer the city physician, but the natives will seek his aid and thus the physician who has so carefully cared for them and taken what pay he could get is further impoverished by his patrons paying to the new comer, the city doctor, money which should have been used to pay him the long past due account.

These men from the city are rarely registered in the summer places, and here is where the native physicians can hope to correct what to them is an injustice, for laws can be, have been made in States adjoining New York, which forbid a physician to practice who is not registered, and registering means an examination by the State board of examiners. How many of the city men could qualify we have no means of knowing, but we have listened to stories of injustice in thus excluding men who have practiced for years in so great an intellectual center as New York City. Our sympathies are with the country doctor, who is entitled to share in the prosperity of his section and to receive full compensation for services rendered throughout the whole year, often in bad weather and at great sacrifice. If the city doctor needs to go to the country for his health he should refuse business and engage in such exercises as will fortify him for good earnest work when he returns to his city home.

THE YOUNG OLD MAN.

It is not the number of years one has lived which should make him old, nor should one count himself useless because he has reached three score and ten, for many of the greatest achievements have been accomplished by men who have outlived the allotted time given by the Psalmist. The prolongation of one's usefulness, of activity, the cultivation of a buoyant and youthful spirit are the prerequisites to an interest in one's surroundings, for as man is as old as he wills to be, barring invalidism, and with a fairly good start in life, one need not become old. A schoolmaster recently celebrated his ninetieth birthday by attending a dinner given him by his surviving pupils. He made the speech of the occasion and bids fair to enjoy many repetitions of the occasion. Another man recently died aged one hundred and eight years. This man was hale and hearty until the last; in fact, was repairing his fence when he suddenly passed away. He had used whiskey and tobacco from early manhood, and remarked frequently to his friends that he "owed his long and healthful life to the fact that he had never been a total abstainer from anything."

Two of the most useful members of the United States Senate are past eighty, Senators Pettus and Morgan, of Alabama. Galusha A. Grow has just passed away at 83. Goldwin Smith, of the same age, is still a contributor to magazines and newspapers. Senator Whyte, of Maryland, the celebrated criminal lawyer, is still active in tedious and trying cases, only recently having secured the acquittal of a client tried for murder.

And so we might proceed at great length to cite the usefulness of men who have passed the four score period. Let us take the lesson to ourselves and determine to be with and of the world, interested in all that surrounds us, cultivate a cheerful disposition, remain active, mingle with the coming great men, be fastidious in our dress, courteous in manner, careful in our conversation, select in our associates, lovable to children, and years will not count for much.

HEART FAILURE.

The increase of sudden deaths attributed to heart failure is a subject which is of such importance that some remarks relating to etiology and prophylaxis would seem to be called for. In New York City we read daily of sudden deaths in various situations and are told by the lay press that they are due to heart failure. Whether physicians called in such cases are warranted from a scientific point of view or in truth in so declaring any more than they would to state that the deceased came to his death because of breath failure is a debatable question. Obviously, all persons die from one or both of these causes. Heart failure serves for a multitude of causes of death, and its utterance upon occasions of sudden death serves the purpose, albeit it means nothing, excepting to distress those who may have a palpitation of the heart upon unusual exertion, after a full meal, vertigo, increased heart beat accompanying gastric dilatation, a mild syncopy from nervous conditions, etc. To such is the fear of heart failure and sudden death. The psychic effect of this suspended doom is ever present with such persons, and works havoc with not only their peace of mind, but unquestionably has proven disastrous to many.

There are many sudden deaths, and that the heart is a potent factor therein is unquestionably true. This being admitted, let us inquire into the causes. First, we do not, many of us, place a limit to our endurance. There is too much hurry. Over and continuous stimulation and indulgence in food and drink, lack of exercise, prolonged mental excitement, physical strain, loss of sleep, and numerous other elements are to be considered. Most of these are avoidable. A reversal of the etiology will suggest prophylaxis.

As the majority of the cases of sudden death under discussion are in those past middle life, or after the senile changes are well under way, such causative factors as would apply to toxemias following or accompanying infectious diseases of childhood, do not here assume great importance. It is the abuse of the normal functions during maturity which brings us face to face with sudden death. The heart, brain and stomach are co-ordinating, and we must learn to lessen the effects of general strain on their respective functions. Until we can realize this and practice it daily, until we can exercise moderation in all things, will we be subject to distress unawares.

THE DANGERS OF DUST.

We are constantly reminded of the harmfulness of inhaling dust and, notwithstanding the publicity of the facts, dust is everywhere in evidence, in the streets, public places, such as theatres, clubs, churches, cars, and in the home. There should be no excuse for this. If those in authority would make war upon the broom and duster in homes and buildings where people congregate, as well as those who continually persist in sweeping sidewalks without moistening the surface; those who sweep the dust and filth from their doorsteps, as well as stores, into the street instead of indoors to be gathered up and incinerated; war to a finish with especially surface car corporations, the cars of which pull from the streets all manner of filth and character of germs to be breathed by pedestrians and deposited in the homes and stores along the street and indeed for blocks adjacent; if some means were devised to prevent the dust of our thoroughfares from being whipped into the atmosphere we are compelled to breathe by the rapidly moving motor car, there would be less cases of pleurisy, pneumonia, tuberculosis, influenza, tonsillitis, bronchial catarrh, diphtheria, and other infectious diseases too numerous to mention.

Public opinion must bring these innovations and corrections about. Competent persons must be placed in positions to inaugurate these changes and be held accountable for their enforcement. It will take time, and there will be opposition from those ignorant of the dangers of inhaling the dust of our cities, but public opinion can force our officials to take action if an organized movement is started and persistently followed up. As an evidence of the power of public opinion we can instance the recent movement in New York City to Pasteurize milk. The health officials opposed the movement until it was made plain that the people would insist upon being obeyed. Then and not until then did the City Health Department heed the strong voice of the people who must in all cases be the final arbiters of public improvement.

Abolish the broom and the duster in our homes, where the beginning should be made. Let those who should know set the example to those less enlightened. Do away with carpets nailed to the floor; if coverings must be used let it be rugs, which can be frequently removed and cleaned by the steam or vacum process and not by beating them upon the roofs or under someone else's windows in the yard. Compel all to sweep into the home or store, where the dust may be gathered up and burned, rather than into the streets. Make it unlawful to sweep or dust theatres, clubs, churches, cars, etc. The vacuum or pneumatic processes will remove the dust without a particle being driven into the air we must breathe or the possibility of its settling upon pictures, mouldings, etc., whence it is only dislodged by wind or vibration. Force the street car companies to sprinkle the streets, or better, devise a pavement which will not harbor dust, and this should apply to all thoroughfares in cities.

THE TRANSMISSION OF WARTS.

Recent experiments show that the popular belief that warts are communicable is warranted. Inoculation of healthy tissue with blood obtained from a wart will cause the growth of a similar excrescence. It is thought that these growths contain an ultramicroscopic germ to which is due the transmission from one person to another. If an emulsion of wart tissue be filtered through a Berkefield filter and injected into healthy tissue, small excrescences appear in the course of several months, which rapidly develop into typical warts. Repeated trials to obtain a culture of the microorganism, if such really exist, failed. These investigations would favor a soluble toxin instead of a microorganism. This might easily be deposited upon the towel and thence to another person. At all events, persons who have warts should take measures to have them removed at once.

PREVENTIVE MEDICINE.

(*A series of papers by the Editor.*)

PREVENTIVE medicine, or that branch of medical science which treats of the measures and means to be employed for the prevention of human degeneration and disease, and hence for the attainment and preservation of public health, is a subject which has always stood high in the consideration and justly commanded the attention of philanthropists, statesmen, and sanitarians. It is a matter of everyday observation that the duties and efforts of physicians and scientists generally are being directed more and more to the prevention of disease. This branch of medical science therefore is rapidly gaining in importance and magnitude. To this the immense number of publications on the subject appearing each year, abundantly testifies. It must be apparent then that the task of condensing the details of such a field of labor into an article of convenient size is almost impossible. An effort will be made, however, to discuss the salient features of this attractive and profitable subject, upon a clear knowledge of which will depend the health of the community, as well as that of the individual.

It is only by persistent and intelligent effort to disseminate the principles of hygiene and to spread knowledge of the causes and prevention of disease that we may hope to accomplish the greatest good to the community and the individual. The discoveries of Pasteur, Koch, and others of the relations of microorganisms to disease have proven of incalculable benefit in the direction of the prevention of disease but the necessity for the adoption of correct applications of the several methods based on these discoveries is shown by the fact that in many instances a wrong or hasty use of the methods applicable to the prevention of disease has resulted in harm. It is for this reason that in the minds of some a feeling of distrust has sprung up as to the possibility, or even probability, of thus materially improving the general health and lessening the rate of mortality. A careful and unbiased study, however, of vital statistics published since the inauguration of health boards will demonstrate the truth of the statement that the enforcement of sanitary measures is indeed productive of great benefit to any community. These statistics show that the mean duration of human life is steadily increasing, and that there is also a very marked decline in the fatality from infectious and contagious diseases, particularly those more or less fostered by overcrowding, *i.e.*, tuberculosis, diphtheria, smallpox, typhoid fever, and certain intestinal disorders. A fair and unprejudiced survey of such figures must convince the most skeptical.

INDIVIDUAL OR INTRINSIC CAUSES OF DISEASE.

The principal causes of disease may be briefly classed as follows: heredity, impure air, impure water, climate, habitation, occupation, food, intemperance of various kinds, clothing, errors in exercise, poisons (including venoms, ptomaines, etc), parasites, contagia, mental influences (worry), etc. As a rule, two or more of these classes of causes act conjointly as etiological factors in the production of a single case, or in an epidemic of disease. The special susceptibility to disorders arising from age and sex also play an important part in the discussion of the causes of disease.

Maternal Impressions: Beginning with the diseases of the newborn, it may be interesting to note the influence of maternal impressions upon the development of the child. For many years there has been accumulating evidence that a profound impression made upon a pregnant woman may be followed in certain cases, but not invariably, by a physical or mental defect in the child, which will bear a recognizable relation to the impression made upon the mother. Although the general consensus of opinion appears to be that this phenomenon when it occurs is a coincidence, it is wise and prudent to guard a woman during her pregnancy from all unpleasant or startling impressions. The possibility of the transmission and intensification of all of the nobler qualities of mind and body which have been so well set forth in numerous essays by the ablest writers deserves to be more generally considered to thus aid us in the producing of a higher and a nobler race of mankind.

Infants are particularly susceptible to intestinal and stomach disturbances. These are due, as a rule, to some error in diet. It is said that of all the children born, one-third die within three months, owing to the fact that the resources of modern science are not employed. This startling fact emphasizes the necessity for exercising extreme care in the preparation of nourishment for those infants, which, through unfortunate circumstances, are deprived of the but one perfect food, the milk of a healthy mother. Diarrhea, or simple looseness of the bowels, with frequent evacuations, in a breast-fed infant is never serious. With regulation of the habits and diet of the mother, freedom from mental annoyances, and correction of any irregularities in the intervals between nursing, it ceases at once. Mothers who have uncontrollable temperaments, who are addicted to alcohol or to drugs, or subject to fits of melancholia, and who are irregular in their periods of rest, exercise and diet, are unfit to act as the source of nourishment for their infants. In such instances it is far better to substitute a wet-nurse or some method of artificial feeding. Mothers suffering from chronic disease, especially tuberculosis, or some other which their offspring may directly inherit, should not nurse their children.

It must be apparent that the future of our race depends largely upon the habits of the individual citizen, and this, in turn, mainly upon his inherited mental, moral and physical qualities, as well as his training and early environment. Too much stress cannot be placed upon the importance of inculcating and practicing clean and healthful habits, physical and mental, early in life, and it should be made clear to those mothers who would have their offspring attain those qualities necessary to a useful and noble existence, that with them lies the great responsibility of teaching them these lessons.

Up to the *age of puberty* children are very susceptible to infectious and contagious diseases. Theoretically, these diseases are now considered as entirely preventable, for it is true that a number of diseases which were so destructive to infants in former times have lost their terrors through the security assured by modern methods of combating the infections upon which they depend.

During adolescence functional neuroses are quite common. An inherited nervous organization or highly exciting surroundings —often associated with a lack of proper home care, as well as the modern tendency to increase the high standard of our education —appears to promote nervous disorders. In these nervous conditions care should be taken to remove, as much as possible, all factors that may exercise harmful influences. If anemia be present the physician should be consulted. An abundance of nourishing food, plenty of sunshine and exercise are especially essential at this period of life. Headaches increased by attempts to read or study will often be found due to errors in refraction, which are easily remedied by the use of proper glasses, which should always be fitted by an oculist, never by an optician.

Owing to the many bad influences, especially in large cities with dense populations, to which *young adults* are exposed, it must be conceded that during this period of life they are subject to many dangers. Tuberculosis, alcoholism, and like dangers should, by proper training and the force of precept and example, be considered as preventable, while control in our homes of such physical influences as ventilation and temperature, besides recent improvements in sanitary conditions, should enable us to prevent many disorders due to such factors. It is a thing of the past for leprosy, the plague, yellow fever, cholera, and smallpox to destroy millions of lives. Isolation of infected persons and substances supposed to contain contagious effluvia, disinfection, and the enlightenment of the laity on matters of personal cleanliness and hygiene have resulted in very notably restricting many of these diseases. Vaccination has been demonstrated so useful a measure that this method of prophylaxis is now made compulsory by civilized governments in nearly all parts of the world. Scurvy, at one time an extremely common disease, is now quite rare. When its causes became known preventive measures were adopted, with such success that it is now an uncommon disease. And so with many other diseases. Care in personal hygiene, continence, and temperance in all things will do much to develop a comparative immunity from many disorders so prevalent during this early period of life.

Old Age: There exists special diseases of old age which, in part at least, arise from the general modifications which the economy has undergone. As examples may be mentioned general impairment of nutrition, marasmus, or wasting away, senile atrophy of the brain, certain alterations in the blood, bladder troubles, and lastly, arterial sclerosis, or thickening of the artery walls, thus interfering with their elasticity. Among the diseases that can exist at other periods of life, but which during the period of senility present special features, may be mentioned hypostatic pneumonia, or congestion of the lower parts of the lungs. Old age, on the other hand, seems to possess immunities to certain diseases. The eruptive fevers, typhoid fever and consumption are quite uncommon at this period. Still, these disorders may exceptionally occur in persons in advanced life.

Sex: It is safe to say that the two sexes are equally susceptible to disease, for the exposures and vicissitudes to which males are ordinarily subjected, during the active years of adult life, more than balance the diseases to which the female is exposed. Even the child-bearing period does not bring the female mortality up to or beyond that of males of similar age. The two sexes are equally liable to all forms of insanity, excepting two: general paralysis is a disease that affects the male preeminently, as more than two-thirds of the victims are men; there is also the exception of insanity during the child-bearing period, which, on the other hand, of course can only affect females.

Heredity: Inheritance is included under the list of the general causes or factors of disease. In any given case of disease it is generally true that someone among the patient's relations has been or is similarly affected. This is most evident in mental disorders. It is conceded that one-third to one-half of all the cases of obvious insanity can be traced in the family to within three generations.

Hereditary predispositions usually assert themselves at certain periods of life. Syphilis, tuberculosis and other infections appear in infancy or childhood. From the fortieth year, at latest, decline commences, and it is at this time that hereditary taints usually develop.

Consanguineous Marriages have always been held as objectionable. Such a union is injurious to the offspring, because it intensifies certain family constitutional taints. It may be said that since so few families possess an absolutely faultless health record the chances for arousing or increasing morbid tendencies by intermarriages are quite sufficient, as a rule, to justify the popular prejudice against such marriages. The exact influence of hereditary tendency to disease can probably never be precisely estimated, because the innate vice of organization will always favor the contracting of other diseases.

Regarding tuberculosis, it may be said that it is very unlikely to be directly inherited; where it does occur the child perishes from marasmus or progressive emaciation, as the rule, in early infancy. We have rather a predisposition to tuberculous disease in the form of organic weakness or lack of resistance to disease when one or the other parent has suffered from it. The scrofulous condition (now regarded as tuberculosis of the lymphatic system) is still considered an hereditary, as well as an acquired, disease. The development of such a taint of disease should be especially guarded against while the child is growing up by physical exercises, such as horseback riding and outdoor sports designed to strengthen the body, and by the use of nourishing food, proper clothing and, in a word, by good hygiene.

NERVOUS INFLUENCE.

It is a matter of common observation that diseases of the nervous system very often show hereditary descent. For instance, neuralgia will sometimes prevail in families. Epilepsy, hysteria, monomania, melancholia, and other forms of nervous disturbances usually can be traced through preceding generations. The nervous temperament, with its usually deficient digestive and muscular development, manifests a striking activity in the so-called nervous processes. This temperament involves the possibility of insanity, epilepsy, paralysis and nervous diseases generally.

Chorea, a disease of early life, affects girls more often than boys. According to Gowers, out of 1,000 cases of chorea only 365 were boys. The etiology or cause of this disease may be traced to fright, or it may follow upon acute rheumatism, heart disease, or some one of the infectious diseases. Emotional excitement is the most frequent factor, however, in producing this affection.

Brain overwork may be the cause of insanity, and this is one way in which we can explain the degeneration so often found in certain families, especially noted ones. The social status has a decided influence in the production of nervous troubles, as an undue amount of excitement makes one especially prone to disorders of the nervous system. Engineers, motormen and those occupied in similar pursuits are very liable to nervous ailments. A man who has to compete continually and severely in a special manner may develop nervous symptoms, leading even to insanity. Fear, the grip and severe excitement are powerful factors in the production of these mental disturbances. Religious excitement may give rise to mania or melancholia—the cause lying in the individual who is predisposed to dementia, the exaltation precipitating the outbreak. Financial and domestic difficulties are potent factors in the production of grave mental disorders. Among other moral causes may be mentioned misery, depressing emotions, remorse, fear, excess of joy, the spirit of speculation and over-study. Such psychic influences, therefore, as will help those disposed to mental disturbances will not only affect a stable character, but act as powerful auxiliaries in the prevention of diseases and a correction of morbid conditions.

BREATHING.

Faulty breathing, in other words, deficient aeration, produces two effects in the blood: it diminishes the supply of oxygen and increases the amount of carbonic acid. While it is true that the respiratory center may be trained to bear at times a scanty supply of oxygen for a longer period than usual—as, for instance, in the case of divers—an insufficient supply in the blood is incompatible with good health. Oxygen is the motor power of muscles. Muscular power, therefore, is in direct proportion to the efficiency of respiration. It is a matter of common observation that, other things being equal, an active outdoor life favors increased muscular power, whereas a sedentary life begets weak and atrophied muscles. Those races whose manner of living is of a more primitive character suffer little from disorders due to faulty or deficient respiration. It has been well said that civilization bred tuberculosis among our Indians. Child bearing is comparatively easy among such women, and the physician who treats female disorders finds little to do. Constipation, too, a disorder so prevalent among civilized people, is due in most cases to insufficient exercise in the open air, and is uncommon among these children of nature.

Enough has been said in an introductory way to show that proper breathing exerts a potent and important influence upon the body. The curative effects of deep breathing (lung baths), and its power as a preventive measure, are beyond dispute. No method of exercise promises so much, and none is so often disregarded. For instance, in all those forms of malnutrition ascribed to nervous exhaustion, blood poisoning through the action of germs, indigestion, anemia, etc., the daily practice of respiratory exercises will often accomplish wonders. By instructing the ailing in exercises of this character we enable them to increase oxygenation and thus improve nutrition. They should be taught to throw back the shoulders, stand erect, and take five or ten deep, full inspirations through the nose and expel the air as completely as possible through the open mouth. Should a paroxysm of coughing ensue it should not be regarded as a contraindication. With time the number of respirations can be gradually increased and performed more frequently. Local congestion disappears and normal circulation is again assured. We find that forcible breathing practiced daily is of great value in cases of small or deformed chests, with accompanying respiratory incapacity. In such cases exercises should be carried on for an extended period of time.

It is well known that the respiratory functions of the nose are to regulate the temperature and to moisten and filter the inspired air. The habit of mouth breathing is one incompatible with the proper performance of this function of the nose. The air inspired through the mouth is incapable of furnishing the required moisture. Thus the bronchial tubes and the air vesicles become irritated, certain diseased conditions occur, and the power to absorb oxygen and throw off carbonic acid is impaired. The poisonous products being reabsorbed into the blood serious nervous phenomena and other disorders result. There accumulates an excessive amount of carbonic acid, which impairs the function of the cellular structures, and the disturbing symptoms are aggravated. Children afflicted with the habit of mouth breathing should be examined for nasal obstructions by the physician.

It is not usually a normal respiration of cold air that is responsible for attacks of acute sore throat, because as long as the nose is in a normal condition the air inspired through it is moistened and its temperature raised sufficiently to render it harmless to the throat. This is not the case, however, in individuals whose noses are sufficiently abnormal to necessitate mouth breathing. During the first attacks of a nasal catarrh the trouble is purely nasal; later, however, the disease extends to the throat through continuity of substance, aided by an increasing size of the bones of the nose, rendering the patient a mouth breather, hence the necessity for a careful examination and treatment of the nose of those susceptible to nasal catarrh, so that nose breathing may not be interfered with. In addition the individual should wear shoes with heavy soles loosely laced about the ankles, thus keeping the feet warm and not interfering with the circulation of the feet and lower limbs.

Mouth-breathers are divided into two classes, the confirmed and occasional. The first breathes almost continually with open mouth. The second is not conscious that he breathes otherwise than through normal channels and will not admit that he does so until convinced of it. The nose should be restored to as nearly a normal condition, physiologically speaking, as possible, and then the patient should use it. Douching and spraying are contrary to nature and should never be practiced. When mouth breathing is merely a habit the author orders the patient to breathe forcibly through his nostrils at the rate of one respiration per second for ten seconds, this to constitute one exercise, to be repeated eight or ten times during the day. The necessity of nasal breathing should be impressed upon the child, and if this is done early enough, barring accident or disease, it will never breathe otherwise.

HYGIENE OF THE MOUTH, TEETH, NOSE, EARS, EYES, SKIN, HAIR AND NAILS.

There is one class of disturbances where preventive measures are to a great extent within the control of the individual, namely, diseases of the mouth and teeth. All parasitic and infectious diseases of the mouth may be avoided by absolute cleanliness. The teeth and mouth as a matter of routine should be cleansed each morning, after each meal, and before retiring at night. Plain Castile soap or precipitated chalk and water will answer all the purposes of an efficient dentrifice. Decay of the teeth always begins from the outside, no such thing as internal decay having ever been demonstrated. If the teeth could be kept absolutely clean decay would rarely take place. Since this is impossible, efforts to minimize the dangers attendant on lack of cleanliness can be attained by attention to some simple hygienic rules. This should begin in early childhood. A very small toothbrush, charged with some precipitated chalk flavored with oil of peppermint, is perhaps the best means for cleaning the teeth of children. The use of linen or other material will not suffice, since this removes the secretion only from the labial and lingual surfaces and not from between the teeth, where the trouble is most apt to be. At times it may be well to pass a piece of waxed dental floss silk between the teeth, when a certain amount of accumulated matter will be brought away. The use of toothpicks, especially if used injudiciously, may do harm by causing irritation of the gum between the teeth and subsequent absorption. If made of wood, splinters are likely to be left behind. Still, if employed with discretion, they are of great value in removing accumulations of food and mucous secretions from localities inaccessible to the brush. Quill toothpicks are the best. The teeth should never be picked with a pin, needle or metal toothpicks.

Hygiene of the Nose: As has been said, the most important function of the nose occurs in connection with respiration, which can be properly exercised only when its tissues are in a state of health. Not only do local affections of the nose result from error in the hygiene of this organ, but general ill health may occur from faulty oxygenation of the blood and a lowering of vital processes throughout the whole economy. The nose should be kept clean and its membranes moistened by their own natural secretions. Should these secretions become hardened and so adherent as not to allow of their removal by the ordinary use of the handkerchief, some tepid water, to which a very little borax, baking soda or table salt has been added, should be sniffed into the nasal cavities from the palm of the hand. Children should not be allowed to cleanse the nose with their fingernails, as the nails are apt to wound the membrane and thus carry disease producing germs to the wounded mucous membrane. The most frequent cause of deafness is catarrh of the nose and pharynx, either as the result of extension of disease, by continuity of substance, through the Eustachian tubes leading from the back of the nose or pharynx to the middle ear, or from the presence of hypertrophies and other lesions of these membranes, the disease interfering with the normal supply of blood to the tubes and middle ear. Hence the importance of correcting the slightest suspicion of nasal catarrh. The inhalation of the fumes of ammonia and other irritating drugs through inhalers, smelling salts, or otherwise has no legitimate place, and its practice should be discountenanced. Nasal catarrh may be relieved by proper clothing, bathing, diet, and attention to general hygienic laws. Steaming the upper air-passages with camphor vapor by means of hot water, to which camphor spirits have been added, is one of the best measures for the relief of this disorder.

Hygiene of the Ears: It is rarely necessary to assist nature in cleansing the auditory canal of children, but should masses of hard, dry secretions form they should be removed by the physician only.

A case of suspected foreign body in the ear calls for the greatest circumspection on the part of the parent. Let this be the rule. No matter how positive a child, his relatives or friends may be that there is a foreign substance in the ear never attempt its removal, but consult the physician. Unhappily, it often occurs that a case of suspected or real foreign body in the auditory canal falls into the hands of one who is not in the habit of properly examining the ear, who, through his unskilful efforts to remove the phantom or the real body, may cause irreparable harm to the organ of hearing. It cannot be too strongly emphasized that a foreign body in the external ear will rarely cause harm, provided it is not interfered with. The remarkable tendency to spontaneous expulsion of foreign bodies on the subsidence of consequent inflammation has been frequently noted by numerous observers. A common cause of deafness is disease of the middle ear brought on by violent concussion of air with the drumhead (the not uncommon "box on the ear"), or by water, as the result of surf bathing or diving.

Hygiene of the Eyes: Refractive errors of sight should be corrected by the use of proper lenses. In such matters the skilled oculist, and not the advertising optician, should be consulted. The proper care of the eyes of the new born is a matter of the highest importance and should be left to the physician. Care should be exercised not to expose the eyes of the infant to irritating gases, dust or to draughts of cold air. It is well also to protect them from too intense light. Our school authorities are just awakening to the necessity of providing good light and fresh, wholesome air for the schoolroom. Many ocular difficulties are occasioned by early straining of the eyes. School books should be printed in large and clear type, and arrangements for the thorough illumination of the blackboard should be provided. In general, it may be stated, that all eyes should be protected from those causes acting as a strain to vision. Persons who are constantly employed either at reading, drawing, or "near work" of any kind should take short intervals of eye rest. It may be well to repeat certain rules for aiding in the preservation of vision, formulated some years ago in a lecture delivered before the Franklin Institute of Philadelphia: "Avoid sudden changes from dark to brilliant light; avoid the use of stimulants and drugs which affect the nervous system; avoid reading when lying down or when mentally and physically exhausted; when the eyes are tired rest them by looking at objects at a long distance; pay special attention to the hygiene of the body, for that which tends to promote the general health acts beneficially on the eye; up to forty years of age bathe the eyes twice daily with cold water; after fifty, bathe the eyes morning and evening with very hot water; follow this with cold water; old persons should avoid reading much by artificial light, be guarded as to diet, and avoid sitting up late at night; do not depend on your own judgment in selecting spectacles; do not despair when you are informed that a cataract is developing; remember that in these days of advancing surgery the lens can be removed with little danger and with restoration of useful vision."'

Hygiene of the Skin: Heat, cold and friction are the chief external and physical stimulants of vitality and of vital action of the skin. Friction, as administered by means of the hand-brush or coarse crash towel deserves attention. For purposes of cleansing, especially in depressions of the skin and at the roots of the hair, there is nothing to equal it. The skin usually responds with a feeling of well-being through the stimulation imparted by the operation on the nerve endings situated in it, to say nothing of the incidental massage of the muscles and the invaluable development of the nerve terminals themselves.

Hygiene of the Hair: The scalp and hair should be kept scrupulously clean by frequent washing and occasional massage as administered by the application of a not too stiff hair-brush. Shampoos, for the purpose of cleansing and stimulating the growth of the hair, are often useful. A solution, composed of two ounces of green soap, digested with one ounce of alcohol and scented with lavender, or a diluted tincture of the soap, the diluent being either alcohol or cologne and rose water, is an excellent lotion for shampooing the scalp. Singeing of the hair is of little or no value in preventing splitting of the hair ends. If done at all it should be done only at the ends of the hair.

Hygiene of the Nails: It may be surprising to many to know that Mittman succeeded in isolating seventy-eight different varieties of bacteria or germs from under the fingernails of untidy persons. A moderately stiff brush and the use of warm water and soap will keep the nails in good condition. They may be polished occasionally with precipitated chalk in impalpable powder, to which a very little carmine has been added. For removing dirt underneath the fingernails a dull knife-blade should be used. The sharp blade of a penknife roughens the under surface of the nails, making little recesses for the collection of dirt.

Ingrowing toenails may be avoided by trimming the nails squarely across at right angles, leaving the corners untrimmed and long enough to reach well beyond the folds of the skin on each side, so that the latter cannot be injured by them.

(*To be continued.*)

BLOOD CHANGES PRODUCED BY NIGHT WORK.

Gardenghi (*Wein. klin. Wochenschrift*), *Charlotte Med. Jour.*, says that persons who work continuously at night, such as bakers, have a pale color of the skin. He has found by animal experiment that on withdrawal of sunlight a marked diminution of the hemoglobin and blood iron is noted. The reduction of the iron is somewhat less than that of the hemoglobin. The number of blood corpuscles, both red and white, is not altered; the ratio of the various kinds of leucocytes also remains unchanged.

He thinks that it is probable that withdrawal of light causes a deficiency in the absorption of iron and the formation of hemoglobin, rather than a destruction of the hemoglobin already formed Accordingly, there is a noteworthy connection between hemoglobin and chlorophyl of plants, the formation of which, as is well known, also is dependent upon sunlight.

HAMLET'S SOLILOQUY.

WITH EXPLANATORY COMMENTS.

To be, or not to be,—that is the question;
Whether 'tis nobler in the mind to suffer
The slings and arrows of outrageous fortune,
Or to take arms against a sea of troubles,
And by opposing end them? To die,—to sleep,—
No more; and by a sleep to say we end
The heart-ache, and the thousand natural shocks
That flesh is heir to,—'tis a consumation
Devoutly to be wish'd. To die;—to sleep;—
To sleep! perchance to dream! aye, there's the rub;
For in that sleep of death what dreams may come,
When we have shuffled off this mortal coil,
Must give us pause; there's the respect
That makes calamity of so long life;
For who would bear the whips and scorns of time,
The oppressor's wrong, the proud man's contumely,
The pangs of disprized love, the law's delay,
The insolence of office, and the spurns
That patient merit of the unworthy takes,
When he himself might his quietus make
With a bare bodkin? who would fardels bear,
To grunt and sweat under a weary life,
But that the dread of something after death,
The undiscover'd country from whose bourn
No traveller returns, puzzles the will,
And makes us rather bear those ills we have
Than fly to others that we know not of?
Thus conscience does make cowards of us all,
And thus the native hue of resolution
Is sicklied o'er with the pale cast of thought,
And enterprises of great pith and moment
With this regard their currents turn awry
And lose the name of action.

Of the above Hamlet's soliloquy To be, or not to be, much has been written; critics, notwithstanding the seemingly elementary character of the text cannot agree as to Shakspere's meaning or intent; in fact, more diverse opinions have been written on these few lines than perhaps on any other of similar length. Shaksperian writers, critics, commentators, editors and revisers express the most divergent opinions; no two agree; while actors have given so many different readings that the average hearer can make nothing of it. Kemble, for instance, pronounced the lines meditatingly. Fechter appeared with an unsheathed sword as if contemplating suicide, in order to free himself from his oath to revenge his father's murder. Sea of troubles was read by Forrest, siege of troubles. Edwin Booth began the soliloquy in an almost inaudible voice while leaning on the balcony, and finished in a highly excited manner. Irving with much show of a pathetic indecision as to what course to pursue. Sothern reads the lines in deepest melancholy. Forbes Robertson in suppressed excitement, while men of lesser note declaim the part as would a schoolboy. Then certain words or lines are given as many readings as there are actors. One accentuates where others repress; with these different interpretations, the hearer is led to a confused meaning not only of the situation, but of the worth of the words uttered.

Let us attempt to make the whole plain, beginning at the first and following line by line to the end:

To be, or not to be,—plainly to continue to exist and follow to the end of this mystery, or to cast off the almost too heavy burden of avenging his father's death. *Slings and arrows*—the first properly referring to things thrown from the sling, not the sling itself,—as the slings of fortune. *Arms against a sea of troubles*—Sea is used to signify a multitude,—Jeremiah LI., 42, refers to a prodigious army as a sea. The troubles of human life which encompass us round like a sea. A torrent of abuse is used in the same sense. End them—to die;—*to sleep;*—to sleep here is synonymous with to die and thus end the heart-ache and the thousand natural shocks that flesh is heir to. To die;—to sleep;—*perchance to dream;* ay, there's the rub; for in that sleep what dreams may come,—uneasy dreams, as portrayed by Clarence in Richard III., Act 1, Scene IV:

KEEPER. "Why looks your Grace so heavily to-day?
CLARENCE. O! I have pass'd a miserable night,
So full of dreams, of ugly sights,
That as I am a Christian faithful man,
I would not spend another such a night,
Though 'twere to buy a world of happy days,—
So full of dismal terror was the time."

It is not the dreams but the character of the dreams from which Hamlet recoils. *Coil* alludes to that which winds us round about, making us helpless. Snakes in repose are always in a coil. They once a year cast their slough or old skin; this sometimes entails quite a struggle. A contemplation of this struggle *must give us pause,* stop our course or occasion reflection. There's the *respect* or consideration of Hamlet's life which is so full of misery, with joy all crushed out, and which stretches into an intolerable future and thus makes *calamity* of so long life. *Whips and scorns of time* or of the corrupt manner of the age. The scorns of time, the infamy of fame. The whips are the goads to execute his promised vengeance upon the King, his father's murderer. The *oppressor's wrong* refers to the oppressor occupying the throne, which of right belongs to Hamlet. The proud man's *contumely,* to the slights put upon him by the same one, the usurper, for is he, the dispossessed son and heir, not discredited? Hamlet says elsewhere, "I am most dreadfully attended," etc., "beggar that I am" and "what so poor a man as Hamlet is," etc. *Disprized*—usually written despised,—is not a love that is disprized more frequent than one despised—and much harder to endure. If Hamlet refers to Ophelia, we cannot, however, agree with him in that his love was either disprized or despised. *The law's delay* is intolerable, as it does not help him to remedy his wrong. *The insolence of office* has been experienced from Polonius as the King's representative. The spurns that *patient merit* of the *unworthy takes,* is the supercilious air with which the same medlar treats the worthy players, his equals at least. *Quietus*—the term for acquittance which the accountant receives upon a settlement of his debt. *Bare bodkin*—an unsheathed dagger or stilletto. Chaucer, in the Monk's Tale, thus refers to the bodkin: "Julius in the Capitoil anoon him hente this false Brutus and his other foon, and sticket him with boydekyus anoon." These *fardels bear,*—fardel a pedlar's truss, bundle, in this instance referring to the mental load Hamlet was compelled to carry. *Grunt,*—some players aiming at elegance of diction give us groan and in the same line read perspire for sweat; but groan and sweat are more forcible in this instance and equally allowable words. (In) The *undiscovered country,*—the future life, from whose *bourn,* limit or boundary no traveller returns, may be objected to in that Hamlet has had ocular proof that his father's spirit returned, but the ghost came from purgatory, a place of temporary abode, not from the last or eternal residence of the soul. *Cowards*—See Richard III., Act I, Scene IV. *Native hue*—the natural color of health is sicklied o'er with a pale cast of *thought*—thought referring to melancholy who's hue is pale from care or anxiety, and enterprises of great *pith* and moment—with this great central thought and force. With this regard their currents *turn awry,* turn away, change their current.

AN ENJOYABLE EPISODE.

I WAS very much amused some two years ago as well as greatly pleased and entertained. Amused at the discomfiture of an amateur violinist and entertained by a noted professional violin soloist and orchestral conductor. The whole affair was so unexpected, so impromptu that it was impossible not to be thoroughly enjoyable. In an adjoining apartment to one I occupied in a bachelor apartment house in the upper west side, New York City, lived a young man who persisted in torturing a violin nightly until my nerves rebelled and I was on the point of seeking to have him legally declared a nuisance.

On the particular night in question I had been alone, trying to get some work promised and long overdue out of the way, but the violin was more rebellious to the torturer than usual and I was almost in despair when my friend the virtuoso burst into my study, violin under his arm, to tell me of his highly successful evening at a concert from which he was returning. He placed his violin, a precious Stradivarius, on a chair, helped himself to a cigar, and was about to seat himself for a recital of his evening's success and that of the others who took part when my neighbor's violin, as an appeal to cease the torture being inflicted, outdid its previous remonstrances. It was agonizing. My friend listened for a moment, went to the window, which was open, it being in June, came back to my table, looked at me, caught the look of pain on my face, understood, hurriedly took from its case the precious Strad., undid the covering as lovingly and carefully as a mother would take from her small child its wrap, gently put it in perfect tune, and then standing facing me began to play, covering the whole range of emotions, from appeal to pity, affection to the most violent denunciation. As one piece followed another new sensations were given expression. One moment we were in an ecstasy of peace amidst the birds, flowers and trees as when a boy; again we were in an agony of pain, and thus it seemed that we lived again our boyhood days amidst associations not forgotten, but because of the stress and storm of life in the great city lost sight of for a time. Troubles, pain, affliction, these were enough, more than enough it seemed to us for our poor soul in so short a span of life. But peace again reigned and we could fold our hands, smile and be satisfied to await the summons. And thus the hour—one glorious hour—alone in a life of varied experiences. We sat alone, with but the master and his willing, responsive, vibrating, tumultuous, sobbing Strad. telling us of—who knows—but surely of pleasure and pain.

The neighbor's violin we heard no more. Like its master it remained ever after or while our neighbor silent. Who knows but it could, under a master's touch, have told a story as strong and as sweet as did the Strad., but like an unfortunate man it was a victim of overwhelming environment. Some day it may pass to other ownership and perhaps be restored to its proper sphere in the society of music instruments, as is he who through good fortune becomes rehabilitated and again goes about with a proud spirit, ever grateful, but tinctured with the memories of other and less pleasant days.

OPTIC NEURITIS.

SIR WILLIAM GOWERS says that the first and chief significance of optic neuritis is the presence of organic disease. If you can exclude a blood state or a constitutional condition, you may feel sure that there is organic disease within the skull or orbit. But neuritis is important, not only for diagnosis, but also for prognosis. Commencing subsidence of the neuritis may be the first indication of commencing subsidence of a morbid process in the brain, and persistence of the neuritis may be the indication of persistence of disease in the brain even when, for the time being, all other symptoms have passed away.

CORRESPONDENCE.

To the Editor Dietetic and Hygienic Gazette.

DEAR DOCTOR: Why do you continue to promulgate the old error, when you know that the best results in tuberculosis are obtained in the cloudy Adirondacks and the worst in the sunny Philippines? In the latter place there are *no* cures with unstinted sunshine. My book should be read. Why not read it? Also see *American Medicine* for April. Don't educate the people to do what is injurious. It is unhygienic and you teach hygiene.

Cordially yours,

CHARLES E. WOODRUFF.

JAMESTOWN, EXPOSITION,
Norfolk, Va., May 4, 1907.

In order that our readers may fully comprehend Major Woodruff's criticism, we reproduce the offending article which appeared in the GAZETTE for May, page 288.

TUBERCULOSIS AND DARK LIVING ROOMS.

"During the ten years, from 1894-1904, says Juillerat, in the *Gazette med. de Paris,* Jan. 5, 1907, about 38 per cent. of all cases of tuberculosis in Paris occurred in 5,000 houses. In 259 of these buildings, sheltering a population of 25,938 persons, inspection disclosed 2,627 rooms with neither light or ventilation.

Of the cases of tuberculosis in these buildings the mortality was 7.98 per thousand. Neighboring buildings, with identical conditions in every respect except that the rooms were better lighted (here Major Woodruff substitutes ventilated for lighted), did not give so large a mortality. Physicians should impress on their clients the supreme importance of sunlight to health, and persuade them to insist on having sunlight and an abundance of fresh air in their living rooms. If tenants shun dark (dark is erased by Major Woodruff on the clipping returned to us), ill ventilated apartments, landlords will in time find it more profitable to provide apartments with these necessary requirements. The pioneer work along this line, the educating of the people to *the absolute necessity for sunlight* (the Major seeks to draw especial attention to the words here underscored by him and places on the margin the words "awful advice") and an abundance of good ventilation in living rooms must be done by physicians. A demand for such apartments in our cities will ensure their construction; a refusal to occupy such as do not meet these requirements will cause them to be replaced by such as do."

This we considered and still consider wholesome advice notwithstanding Major Woodruff's criticism, and our opinion is that all physicians will agree with us unless obsessed with theories such as are exploited in the Major's book. We have carefully read the book, did so soon after it appeared in 1905, but could not subscribe to the arbitrary and dogmatic theories contained in it. While clearly within our province to review the book we refrained.

Conditions have changed, however, and in view of the above we feel called upon to draw attention to a few, a very few, of the statements contained in it. For instance, on page 79 we read that "Residence in dark houses is practically harmless," and on page 81 he makes the singular—when taken in connection with the above— statement, that "the dark house is not as harmful as the present generation of sanitarians assert, *except as it is a healthy place for bacteria as well as man.*" (Italics ours.) He reverses his theory on page 95 when he writes that: "We have already noted that light increases the oxygen-carrying capacity of the blood, increases the excretion of carbonic oxid, and that the shorter waves seem to cause a beneficial stimulation in the young of many of the lower and higher animals as shown by better development, and the idea is growing that though man's protoplasm can function without this stimulation, yet he is better off if he has it and thus reaches his highest vigor and efficiency."

We might continue to great length, but let us pass to the opinions of some of the greatest teachers and most successful practitioners, men who have treated thousands of cases of tuberculosis—for it is tuberculosis that we are here dealing with. For instance, Osler, in the 3d edition of his Principles and Practice of Medicine on page 332, says that " in relation to treatment of tuberculosis the patient's bed should be in the room with most sunshine," and again on page 333: "The requirements of a suitable climate are a pure atmosphere, an equable temperature not subject to rapid variations and a *maximum amount of sunshine.*"

Tyson, 4th edition of his Practice of Medicine, page 268, in writing of the treatment of tuberculosis, says that "apartments occupied should be those accessible to sunlight for as many hours of the day as possible. . . . Sunlight rather than shade should surround him in his outdoor life, and the temptation to sit in cool shady places should be resisted."

In both of these works, which all will admit are representative of the best thought in medicine, the climate of Arizona, southern New Mexico and California are recommended for those suffering with tuberculosis, because of the continued sunshine as well as climatic conditions.

More might be said to corroborate Dr. Juillerat's wise advice, but we are content to leave the wisdom of an abundance of sunlight for man, whether sick or well, to the judgment of all medical men as well as sanitarians and teachers of hygiene.

Let us go out into the sunshine.

INCORPORATED INSTITUTE OF HYGIENE.

A LECTURE of a popular nature dealing with infant feeding was delivered by Dr. Robert Hutchison at this institute on Feb. 6 and was well attended. The lecturer compared the results of natural and artificial feeding of infants and drew attention to some features of the management of natural feeding which should be carried out with due care. Regularity of feeding and the need of weighing the infant at intervals were points upon which stress was laid. Dr. Hutchison insisted that weaning an infant should not be postponed to the extent that it often was; infants, he said should be weaned at the age of ten months, irrespectively of the condition of their teeth. Unfortunately at the present time there were so many mothers who were unable to nourish their offspring, as many perhaps who believed that they were unable to do so, and a very large army of mothers who frankly declined to feed their children at the breast. Much as this situation was to be deplored it must be faced, and the best means of artificial feeding must be utilized. As regards artificial feeding Dr. Hutchison showed the importance of proceeding upon a definite plan and of avoiding frequent changes. Cow's milk was naturally the first form of artificial food for infants, of which the advantages and disadvantages were discussed. Few very young children were able to digest and to thrive upon undiluted cow's milk, and therefore the various methods of modifying cow's milk, condensed milk, dessicated, peptonized milk and patent foods were made the subjects of brief comments. The "half-and-half" mixture was referred to and Dr. Hutchison expressed the opinion that on the whole plain water in the above proportions was the most satisfactory diluent of milk to render it a palatable, nourishing and easily digested food for infants. Sometimes the addition to this mixture of small but definite and equal quantities of cream and sugar were indicated. There were, however, many infants who found this degree of solution too strong. For such as these Dr. Hutchison would recommend the addition of citrate of soda in the proportion of one grain of citrate of soda to an ounce of milk. This addition should considerably lessen the density of the milk clot and in a large number of instances would achieve the desired object. With some infants citrated milk was of little value as a food, and in certain cases Dr. Hutchison advised the employment of condensed milk for this purpose. In doing so he admitted that he was running counter to the views of the majority of the medical profession, but he did not speak in favor of the indiscriminate use of condensed milk or of the employment of unsuitable kinds of condensed milk. Theoretically, unsweetened condensed milk was the best, but he had found in practice that sweetened condensed milk was a more suitable and nourishing infant's food. When properly modified it resembled in composition human milk more nearly than did the "half-and-half" mixture and did not form clots. Condensed milk should not be used for too long a period as, if so, rickets might be produced. After an infant had arrived at the age of four months condensed milk should be given as a food no longer. If an infant had a puny appearance condensed milk would be more likely to suit than the "half-and-half" mixture. If neither "half-and-half" mixture, citrated milk, nor condensed milk seemed to act as satisfactory nourishing agents desiccated milk might be tried. There were cases in which, as a last resort, peptonized milk would be of avail. In regard to the amount of food to be given to infants at one time, Dr. Hutchison said that no hard-and-fast rule could be laid down. As with adults, so with infants, appetites varied, and therefore the personal factor must be taken into account. A simple feeding-bottle was recommended and emphasis was laid on the point that it should have a good-sized hole at the top, so that the fluid could be sucked through without difficulty. Dr. Hutchison declared himself to be by no means in favor of patent foods, as he thought that few children who could not digest modified milk would thrive. Weaning from the bottle should take place at the age of ten months, as weaning from the breast.—*The Lancet*, Feb. 16, 1907.

PROTECTION AGAINST SEASICKNESS.

Regnault (*Presse Medicale*), *Jour. A. M. A.*, is inclined to ascribe the symptoms of seasickness to irritation of the abdominal contents from the sliding around and displacement caused by the motion of the ship. Tightly closed cavities, filled with fluid, are much less liable to have their contents suffer from the motion of the ship than the abdomen. The rubbing of the viscera on each other, he asserts, irritates the nerve ganglia, and the vomiting and other symptoms follow from reflex action. Ptosis of the viscera and dyspepsia favor the development of seasickness, and the symptoms are sometimes relieved by a bandage around the abdomen. Reclining reduces the sliding around of the viscera. Brief relief, he states, can also be obtained by cocain anesthesia of the empty stomach. Direct and indirect suggestion is the treatment for the "imaginary" variety of seasickness, especially when combined with a placebo and a sedative. It is scarcely practicable for the ship doctor to use hypnosis, for obvious reasons which Regnault enumerates, but great benefit may be obtained, he states, if the patient dreading seasickness applies to some specialist in hypnosis before he goes on board. The soil is favorable here, and preventive suggestion is frequently effectual. True somatic seasickness is cured as the patients acquire "sea legs," that is, learn to adapt their position to the motion of the boat. Even this may fail when the sea is extraordinarily rough. Regnault confesses in conclusion that his distinction between real and imaginary affections applies to all kinds as well as to seasickness. "The reason why medical literature is swamped with so much tedious detail and our therapeutics is overburdened with remedies of all kinds, is because some have cured merely imagination affections, unaware of the absence of any somatic basis." He adds that the reminiscences of observant physicians who have grown old in the profession might throw a flood of light on this subject if they would review their experiences from this point of view.

GRAPE CURE IN ATROPHIC CIRRHOSIS OF THE LIVER.

In 1902 A. Cavazzani (*Riv. crit. di clin med.*), *British Med. Jour.*, had under his care a patient with hepatic cirrhosis, enlarged spleen, hæmatemesis, oliguria, and ascites recurring rapidly after abdominal puncture. Other methods of treatment having been tried and found wanting, the grape cure was employed. Ripe grapes were given up to 5 pounds per diem, and the patient improved much in every way until a sudden gastric hæmorrhage carried him off. Since then the author has tried the grape cure on five more patients with atrophic cirrhosis of the liver due to marked and prolonged alcoholism, aged 41, 61, 50, 30 (a woman), and 61 respectively. Details of these cases are given, and they were very much improved by the treatment, the ascites disappearing rapidly and without the use of the trocar. Further, these patients have all continued to enjoy good health since the treatment was first given—that is, for periods of from 4 to 1½ years. But the author has tried the grape cure, and also the ferment cure, in other cases of hepatic cirrhosis, where the good effect has been but transitory, or even inappreciable; he is not able to give any exact statistics of the grape cure in cirrhosis, but believes that the cure does represent a real advance in treatment. He discusses the diagnosis in each of the five cases recorded above, and shows that hepatic cirrhosis really was the condition from which the patients were suffering, and gives several pages to the significance and mode of action of the cure. He thinks that it is the grape sugar—aided, perhaps, by the ferments in the grape juice—that effects the cure. The volume of the liver does not return to the normal; spleen and the subcutaneous veins of the abdomen remain enlarged.

SUCTION THERAPY FOR AFFECTIONS OF EAR AND UPPER AIR PASSAGES.

According to Vohsen (*Münchener medizinische Wochenschrift*), *Jour. A. M. A.*, a simple means of influencing the nasal sinuses and evacuating morbid secretions is based on the Bier method of aspiration with a cupping apparatus, but no apparatus is required. The benefits of the Bier aspiration treatment are the result of the alteration of compressed and rarefied air. The same results can be accomplished, Vohsen says, in affections of the sinuses or middle ear by blowing into the nose, which is held closed, and thus compressing the air in the sinuses, then aspirating out their contents with the mouth and throat muscles, the glottis being closed. The negative pressure that can be thus obtained is much higher than with any mechanical device to date. Hyperemia is induced in the parts, the sinus is emptied, and the procedure can be repeated at will by the patient without harm. By holding his throat as in the position of yawning and then aspirating out the air with the nose closed tight, he succeeded in drawing out part of an effusion in the middle ear. The only possible drawback to this technic, he adds, is the possibility of conduction of the pressure to the middle ear, but this can be avoided with a little practice. The method is not adapted to every case, of course, but when indicated will be found a great help. Muck gives an illustration of a glass tube whose end fits tight in the ear. The outer end carries a rubber bulb and its application for suction treatment of suppurative affections of the mucosa of the ear has given him uniformly and surprisingly good results. He has applied this treatment in 20 cases of obstinate chronic affections, applying the instrument for one or two minutes, with one-minute intervals, and keeping this up for 15 minutes on alternate days. Healing was complete in every instance in from four to eight weeks. The benefit from the mechanical removal of the secretions is supplemented by the induced hyperemia.

THE SPLEEN IN ORGANIC HEART DISEASE.

Barié has been looking over his notes of 216 cases of organic heart disease in which the condition of the spleen was systematically recorded. In about a third of the cases, he says (*Presse Medicale*), *Jour. A. M. A.*, the spleen was more or less abnormal, either enlarged or shrunken or the seat of infarcts. In these cases there was always a history of malaria, dysentery, scarlet fever or some similar condition. No clinical signs were manifest in the cases of atrophied spleen, and the infarcts generally developed unnoticed or at most with a sudden local pain. Enlargement of the spleen, however, was liable to induce actual "spleno-hepatic asystoly." Pallor, relatively frequent, severe epistaxis, and progressive debility are the main signs of this condition. It is characterized by regularity of the pulse, absence of venous congestion, of cyanosis and of oliguria, and by a white and depressible edema. In one case the patient was awakened in the night by a menacing epistaxis, recurring at night several times and requiring tamponing. The vertical diameter of the spleen in this case was 20 cm., nearly 8 inches, and there were only 2,000,000 red and 4,000 white blood corpuscles.

THE SIGNIFICANCE OF THE PRESENCE OF LACTIC ACID, AND OF DEFICIENCY OR ABSENCE OF FREE HYDROCHLORIC ACID, IN THE GASTRIC CONTENTS AS A MEANS OF DIAGNOSIS.

A writer in the *London Hospital* briefly sums up the subject as follows:

1. The absence of free hydrochloric acid is normal for a certain time after each meal.
2. Its absence is only pathological when the conditions are such that the gastric contents of a healthy man would have contained free hydrochloric at the same interval after the same kind of meal.
3. The presence of lactic acid is normal after a meal containing milk, until such time as free hydrochloric acid should be present. The persistence of lactic acid for a longer period has the same clinical significance as the deficiency of the hydrochloric acid, and as the latter is the easier to test for, examination for lactic acid helps little for purposes of diagnosis.
4. The absence of free hydrochloric acid at the proper interval after food is an indication that the patient is seriously ill, and that his juices are consequently out of order; its absence only favors a diagnosis of gastric carcinoma when the other clinical evidence has narrowed the possibilities down so that the diagnosis lies between gastric ulcer or the like on the one hand, and gastric carcinoma on the other. With the former of these hydrochloric acid is likely to be present in excess, so that in a patient in whom there is a doubt as to whether the stomach lesion is simple or malignant, the absence of free hydrochloric acid from the stomach contents at the proper interval after a test meal favors the diagnosis of gastric carcinoma.

SODIUM CHLORID METABOLISM.

Bittorf and Jochmann report from von Strümpell's clinic at Breslau (*Deutsches Archiv f. klinische Medizin*), *Jour. A. M. A.*, a series of 14 cases of kidney or heart disease, or both, in which the metabolism was studied in detail with and without salt in the food. Certain general rules can be deduced from the findings in these cases. In inflammatory processes with effusions, the elimination of sodium chlorid may be normal during the acute phase, but in pneumonia increased intake of salt does not increase the average eliminated. In kidney disease with heart complications, the salt metabolism takes place as in heart disease with failing compensation. In other kidney affections the conditions vary. As a rule, in the cases studied the elimination of sodium chlorid was good. It frequently did not seem to have any connection with the elimination of water. The faculty of eliminating sodium chlorid gives no insight into the kind or severity of the renal affection. They are convinced that changes in the vessels are the cause of the edema, not primary retention of sodium chlorid. Dechloridization, therefore, as a method of treating kidney affections has no scientific basis, they claim, except in so far as the diet as a whole is rendered by it more easily digested and assimilable.

TREATMENT OF GASTRIC AND INTESTINAL HÆMORRHAGES WITH GELATINE.

Mann (*Münchener medisinische Wochenschrift*), *Med. Rec.*, reports excellent results in the treatment of gastric and intestinal hæmorrhage by the author, by the internal administration of a preparation of fluid gelatine. The histories of nine cases are briefly given, to show the prompt effect of the remedy in such cases as typhoid fever, gastric carcinoma, ulcer of the stomach and melena. In none of these cases was any other medication resorted to except the gelatine treatment, yet prompt cessation of the bleeding followed in all except one case, which was an unusually severe typhoid infection. In this instance the autopsy revealed the presence of extremely numerous and deep ulcers, so that it would have been rather too much to expect any remedy to effect a cure. The formula for gelatine mixture is as follows: 20 grams of gelatine is boiled during six hours with enough water to make 130 cubic centimeters. It then remains fluid, and 2 grams of citric acid are added. It may be flavored with a little syrup of orange, and is given in doses of one or two tablespoonfuls every two hours.

HOUSEMAID'S KNEE.

According to Sir W. H. Bennett, you may simply tap the bursa with an exploring trocar—the smaller the trocar the better—and draw off the fluid. At least three or four "sittings" should be occupied in emptying the bursa. About a fourth of the fluid should be taken away on each occasion, and during the whole time firm pressure by means of a pad and bandage should be maintained. In this way a good and permanent result is more likely to be obtained than by emptying the cyst all at once.

MIGRAINE.

During an attack of migraine the feet are often found to be very cold, and the adoption of measures to restore warmth improves the circulation, and often gives at least some measure of relief from the headache.

ERYSIPELAS.

The chief characteristic of erysipelas is to invade fresh tissue by rapidly spreading at the margin; this feature is not found in any other similar affection, and it is of great value in diagnosis.—*The Hospital.*

HÆMORRHAGE AFTER TONSILLOTOMY.

In cases of hæmorrhage after tonsillotomy, Mark Hovell says: "Mix three parts of tannic acid and one part of gallic acid with a few drops of water and knead into a hard mass. From this take a piece sufficient to form a ball the size of a small marble. Rub this firmly against the bleeding surface, making counter pressure with the palm of the other hand placed on the side of the head over the region of the tonsil. I have never known this to fail.

ITCHING IN SCARLET FEVER.

In itching in scarlet fever, which is sometimes intolerable, keeping the child restless and irritable, Dr. Seymour Taylor finds nothing more useful than sponging the body with a warm solution of sodium carbonate (grs. x. to ℥j.) to which a little mucilage has been added. It forms a soothing and grateful application to an inflamed skin.

VAGUE PAINS.

Never hastily pronounce a case of vague pains to be "neuralgia," "rheumatism" or the like, says Mr. Marmaduke Shield. Care, and especially prolonged observation, will usually guide you to a correct conclusion, and will save you from the grave discredit of attributing to a trivial cause such serious maladies as bone disease, tumors or internal aneurism.

PRURITIS ANI.

The following has been recommended as almost a specific in cases of pruritus ani: Take of sulphate of zinc and alum equal parts; heat the two until all the water of crystallization has been driven off, and dissolve the residue in water (ʒj. to ℥j.). The solution must be applied freely to the site of irritation.—*The Hospital.*

INFLATIONS OF THE KNEE JOINT WITH OXYGEN FOR THERAPEUTICAL PURPOSES.

Rauenbusch (*Berliner Klinische Wochenschrift*), *Med. Rec.*, reports several cases of arthritis, mostly arthritis deformans of the knee joint, in which he obtained great improvement by repeated inflations of the joint with oxygen. A considerable subjective improvement was obtained in this way in three cases of tuberculosis of the joint.

HAY FEVER .

Heymann (*Berliner Klinische Wochenschrift*), *Med. Rec.*, has obtained good results in hay fever from the administration of preparations of the thyroid gland, and is inclined to ascribe the disease to a nervous diathesis, probably in the region of the sympathetic system.

RETENTION OF URINE IN HYSTERIA.

According to Sir Dyce Duckworth, when you hear, in the case of a young girl who is obviously healthy and properly formed, a story of the patient not passing urine, you should at once think of hysteria and should believe that in all probability there is some fraud in the case.

BRUIT IN ANEURISM.

With regard to abdominal aneurism and all other aneurisms, Sir Douglas Powell says that a bruit is one of the least important and most misleading of diagnostic points. There may be aneurism without bruit, and again a bruit over a tumor does not necessarily mean that the tumor is aneurismal. Further, I have met with cases both of thrill and bruit in aortic pulsation which were not cases of aneurism.

ALKALINE TREATMENT IN RHEUMATISM.

In many cases of subacute rheumatism alkalies will succeed when the value of salicylates has become exhausted. But it is essential that full doses should be given, and this can only be determined by noting an alkaline reaction of the urine. Quinine may be usefully combined with the bicarbonate and citrate of potassium.—*The Hospital.*

FURUNCULOSIS.

The best way to treat furunculosis is to open every boil as soon as it appears, syringe it out with some carbolic lotion—1 in 60—or rub in iodoform. Never poultice a boil with linseed-meal or bread, but if there is great pain you may apply an antiseptic one, such as a warm boracic fomentation. But the best plan is to open each boil and clear it out as soon as possible.—*Dr. Radcliffe Crocker.*

TABES DORSALIS.

Rest in bed I believe to be efficacious in cases of this disease. I do not think the patient ought to be kept solely at rest in bed; there ought to be combined with this very active treatment of the spine by counter-irritation by means of the actual cautery. The best results I have seen in tabes in hospital have been in cases in which the cautery has been used very freely indeed, this treatment being accompanied by rest in bed.—*Dr. James Taylor.*

SKIN ERUPTIONS FROM DRUGS.

Never forget that anomalous rashes, papular, bullar, or pustular, sometimes accompanied with ulceration and granuloma, which look like lupus or malignant disease, may all be caused by iodide of potassium in medicinal doses.—*Dr. Pye-Smith.*

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by **Franklin W. Barrows, M.D.**

THE INDISPENSABLE DISTRICT NURSE.

We propose to cite several places in which the district nurse, by her opportune and efficient service has become an essential agent in the social economy. Such instances might be multiplied by hundreds; they might be tabulated in statistical exhibits, with eloquent footings of dollars. We shall deal here with individual instances only, and merely repeat the story as it is told by the workers.

In the *Canadian Nurse* the Halifax Branch of the Victorian Order of Nurses for Canada presents a very creditable report, from which we make the following excerpt:

> The people are learning the advantages of having trained nursing and are finding out that the Victorian Order brings it within their reach, also that the work done enjoys the confidence of both the doctors and people. During the past year there has been a large increase in the maternity work. Each of the 299 cases nursed has its own interesting history. We could tell of work among the very poor in sick rooms, where there was nothing but a bed and one chair; of cases where the nurse herself had to make the fire and first borrow the coal with which to make it; of fourth-rate boarding houses, in which the mother and babe were two floors from any heat, and the water to wash the patient had to be carried up two flights of stairs; of the cleaning to be done, especially before operations, and of poverty so great that the whole tenement and sometimes the whole neighborhood had to be called upon to get the necessary appliances. Of the 3,728 visits made during the year, 2,486 have been free visits; for 1,242 we have received small sums. In other words, for every visit for which remuneration has been received, two have been free. Many of those who are not of the very poorest class have only what they live upon from day to day, and when the breadwinner is laid aside that small sum ceases. The burden of illness always presses heavily upon them, and then nursing must be free or they must do without it.
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> But our patients have not all been of this kind. We have another most useful and very encouraging class of work, namely, that among the working classes—people who receive regular wages, quite sufficient for them to live upon in comfort, but allowing no margin for extras and for whom a trained nurse at $10 or $12 a week would be an impossibility. This class desires no charity and would very properly refuse to accept gratuitous services. They are able to pay for a portion of a nurse's time and desire to do so. District nursing meets this want by giving to one case the amount of time it requires and then passing on to another. In maternity cases an hour or an hour and a half makes the mother comfortable, washes and dresses the infant and ensures that there are none of those evils which arise from improper nursing and want of rigid cleanliness. Persons usually pay for such services 25 cents a visit—12 visits, which is the average number for maternity cases, costing $3. Grateful patients have, on more than one occasion, handed the nurse $1 in excess of the charges. We have received for the 1,237 visits $273.50, an average of 22 cents a visit. Each visit costs the order a little over 44 cents, so even these patients have received their nursing at half its cost. This class of work has been very encouraging from the fact that the nurses have been able to show the friends or relatives how they care for the patient, and it has been most gratifying to see the improvement made and the pains taken to do everything as the Victorian nurse does it. In all cases the aim of the order has been to bring trained nursing within the reach of those who cannot get it unaided and who would suffer without it.

Dr. Henry L. Shively, writing in the *New York Medical Journal,* on "District Nursing and Extra Diet in the Treatment of Tuberculous Patients at the Presbyterian Hospital Dispensary," shows that the district nurse is a very essential factor in the broadening of the influence of the modern dispensary. He says:

> With the advent of the trained nurse as a district visitor a better era dawned for the neglected consumptive in large cities. The necessary knowledge of home and economic conditions now supplemented the study of the patient's physical state, and this is as necessary as the latter for a correct understanding of the many difficult problems to be solved. Much useful data as to the patient's habits, cleanliness, intelligence, conscientiousness, and pecuniary circumstances were obtained, and the patient himself felt that a real effort was being made to accomplish something for him in these friendly visits by the nurse. When she rightly understands her important duties she is a true social missionary carrying the gospel of good hygiene where it is most needed. More intimate and more helpful relations through her agency are established between the home and the clinic, better control of the patient is secured, and the obstacle to successful treatment of changing from hospital to hospital is greatly reduced. This evil now promises to be practically done away with by the plan of districting the city for the dispensary care of tuberculous patients.
>
> It was soon apparent that to efficiently provide for the work of district nursing, the pupil nurses who were first tried at the Presbyterian Hospital Dispensary were inadequate on account of their inexperience and the frequent changes necessitated by their course in the training school. Patients often resent the intrusion of numerous visitors from societies and institutions, however well intentioned, and the confidential relation so necessary to develop the greatest usefulness of the nurse can only be secured by permanency of tenure, tactfulness, sympathy, enthusiasm, and experience in the work. For the past year the district nursing for tuberculous cases has been entirely carried on by permanent salaried nurses selected for especial fitness for their duties. With the knowledge of the other than strictly medical elements of the tuberculosis problem thus forced upon his attention by the daily reports of the visiting nurse, the busy clinic physician has been obliged to enlarge the scope of his responsibilities and take up many questions which he had not before considered in sufficient detail, if at all. The necessary co-operation of the physician and nurse has made possible a complete and correct diagnosis of the physical and economic condition of each individual patient. The difficulty of providing appropriate treatment still remained. . . .
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> Among tuberculous patients it may be said in general that there is little abuse of the dispensary by those who can afford to pay. Many self-respecting people who have never sought charity see their scanty stock of savings rapidly exhausted when their earning capacity is lost or impaired by an illness of long duration, such as tuberculosis of the lungs always entails. They often shrink from applying for relief and have the suffering of genteel poverty added to that incident to their disease. Such cases are among the most worthy whom it is a privilege to help.

These reports testify powerfully to the economic importance of district nursing, aside from its significance as a philanthropic movement. District nursing is lending itself to the solving of problems that were and are too difficult for the hospital or the dispensary or the social settlement or any other single agency.

More power to the district nurse! May her tribe increase! And how shall the whole broad land share in her ministrations so that town and country shall enjoy the privileges that are furnished by the Presbyterian Dispensary in New York and the Victorian Order in Halifax? First, by teaching the people to multiply and support such agencies.

Miss Aikens, in her paper in the April GAZETTE, has suggested the first step in providing nurses where they are most needed. In future numbers we intend to show more fully how this good work is being accomplished by the Victorian Order in Canada and the Queen's Nurses in Great Britain.

"OUR VILLAGE OF NEW YORK."

THERE'S a tory among us somewhere who has discovered the old, old truth that Americans are hard to drive and not always easy to lead. And this is the way the tory tells about it in the *British Journal of Nursing*, which, by the way, is usually more fortunate in the nature of its correspondence from New York. The identity of the writer of this item is effectually concealed, however, by the trick of anonymity. And so:

> There is a very reactionary movement now going on in our village of New York (which is

distinctly provincial) against the three years' course. It is being led and fostered by a group of physicians and I should not be at all surprised to see it make some temporary headway, and, perhaps, do a good deal of harm to our training for the time being, though I do not believe that any reactionary movement can be finally successful. All progress has its opponents, and every advance stirs up the reactionaries. I do not know that it is worth while to honor them with much attention. I believe they will die out.

Since reading this item, we confess that we have breathed easier to know that the question is off from our friend's mind at last. Of course we can overlook the playful spirit of condescension which gambols through the paragraph. It is such a relief to know that the correspondent isn't worrying—any more.

If any readers in Great Britain or elsewhere want a bit of real information bearing on this "reactionary movement" they will be well paid for their time in reading "A Present-Day Question," in *The National Hospital Record,* which is printed in the "village" (ye know) of Detroit and shows what a lot of people think in a province a thousand miles from New York. We would like to quote it in full if we had the space.

And, by the way, before we forget it, we would like to remind the correspondent, whoever he or she may be, that "action and reaction are equal and opposite in direction," as Newton said. And Newton said there was a reason.

CONTAGIOUS DISEASES AND THE BELLEVUE STAFF.

The records of Bellevue Hospital for the past three months show that six members of the house staff have been stricken with diphtheria, three with scarlet fever, and one with blood poisoning, which may result in the loss of a finger. During the same time thirteen nurses have been stricken with diphtheria or scarlet fever while on duty. This would indicate that the hospital interne in New York takes more risk of death than a fireman, and more chances in one day than a policeman takes in a year.—*Jour. A. M. A.*

THE NURSING OF CHILDREN.

By Miss Minnie Goodnow,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

(Continued from page 308.)

CARE AND FEEDING OF PREMATURE INFANTS.

In dealing with infants born prematurely we have need to avoid the two extremes of thought: the one which assumes that the ordinary care given to a full-term child will suffice; the other, that it is hardly worth while to save a child which may be sickly for the rest of its life. The nurse should understand, first of all, that her work *is* worth while, and that the majority of premature children are eventually quite as strong and as competent mentally as those born at full term. On the other hand, she should remember that these children lack weeks of development, and that nature will require much assistance.

Extreme caution should be exercised in statements put forth concerning the amount of prematurity; exact data are usually impossible to obtain, and there is always a tendency to exaggerate. It should be borne in mind that cases of less than seven months development are rare. One should also take pains to correct the popular impression that a seven-months' baby has a better chance for its life than an eight-months'; this notion has no foundation either in science or in fact.

DIFFICULTIES ENCOUNTERED.

One of the worst handicaps of a premature infant is its lack of subcutaneous fat; this fat is formed mostly during the latter weeks of pregnancy, and is therefore entirely lacking in these cases. In consequence, radiation of heat takes place very rapidly, vitality is lowered, and all functions interfered with. It is essential, therefore, that this loss of heat be checked in every possible way.

The child's digestive powers are feeble, and the nourishment given must be of such a character as to be easily assimilated. It must be supplied in exact amount and with regularity. Feeding must be continued by night as well as by day.

Perhaps the most serious condition presented by these children is their lack of lung development. Other organs have some small amount of use before birth, but the lungs none at all; they are therefore, for all practical purposes, some weeks behind the rest of the body in development, and often they fail to unfold properly at birth; in this case the child may do well for some days and die suddenly for lack of oxygen.

All these difficulties must be recognized by those who have the care of premature infants and measures taken to meet them. The first few days are of vital importance and watchful attention may be needed for many weeks. Any neglect or misunderstanding of conditions may have fatal results.

INCUBATORS.

The incubator has now obtained an established place in the rearing of premature children, and it seems unlikely that anything will be found to take its place for some time to come. Its value lies in its maintaining the child's bodily heat, while providing a proper amount of fresh air. An incubator which fails in either of these offices is of no value.

Crude incubators have been in use for many years with more or less of success. The old peasant custom of putting premature children into a jar of feathers had its foundation in good common sense; likewise the continuous warm bath of Winckel. The mechanism of incubators has been steadily improved; and, while the modern one is yet unperfected, it has doubtless saved many lives which would otherwise have been lost. The doctors still disagree as to the value of incubators, yet the number of those in use increases year by year.

IMPORTANCE OF IMMEDIATE ACTION.

Promptness in action is a vital matter, and it cannot be too forcibly impressed that a delay of a few hours may cost a life. When it is found that a premature birth is inevitable, all arrangements should be made beforehand, the apparatus put in readiness, and a nurse who has had experience with these cases secured. It is wisest for the mother to be in the same building with the incubator, or, if this is impracticable, an incubator may be rented or the child sent promptly to the hospital where there is one installed. Some of the larger cities now contain an incubator station, from which a so-called incubator ambulance may be sent out for the child. The all-important duty before one is to see that the baby is quickly placed in proper surroundings and under the care of a thoroughly competent person. The public assumes that the apparatus is the main feature in the case; the physician knows that care counts for far more.

CARE WITHOUT AN INCUBATOR.

If an incubator cannot be obtained a basket or box warmly padded and well supplied with hot water bottles must be substituted. This is to be placed on a chair or table out of the way of drafts. The room in which it is kept should be large enough to be easily ventilated without chilling the child. It must be kept at a temperature of 80 degrees. Perhaps the best way of supplying fresh air is to remove the child to another room three or four times a day, open the windows widely for a few minutes, then close them and heat the room to at least a temperature of 70 before the child is brought back.

In many of these cases it is wise to reverse the rule of not allowing the baby to sleep with the mother; it may, on the contrary, be left in bed with her a large part of the day. It will often be found that a small and weak child may have low vitality and consequent subnormal temperature despite hot water bottles and warm baths, when, if placed for a time in close contact with the mother's body, the temperature will rise to normal and the child's condition improve to a marked degree. This is no doubt incorrect in principle, but in practice has been known to save lives.

KIND OF INCUBATOR.

The old-fashioned box incubator is so crude as to be practically useless and should not be considered.

The modern ones of steel and glass are all built on much the same lines, and there is very little choice as to the make. The Kny-Scherer or the Lion pattern are good examples. The chief fault with all of them is that the ventilating arrangements cannot always be depended upon to ventilate; this is particularly true in summer. The heating apparatus is almost invariably satisfactory and requires but little watching.

CONSTRUCTION.

The approved incubator consists of a case set at a convenient height, with glass doors in front and a window at the side. The child may be fed by opening the window a little way, but for changing or removing from the apparatus both doors must be opened. The bed with the child is laid on a grating of heavy wire netting, beneath which is a hot water coil; this coil is from a small boiler outside at the right, which is heated by a Bunsen burner; the height of the flame is regulated by a thermostat situated inside the apparatus; this thermostat must be kept free from dust and requires very careful handling; if at any time it should refuse to work, constant watching of the temperature is necessary. A thermometer is hung about the center of the inclosed space, near the child's head; it should not be set upon the metal. There is also a hygrometer to indicate the amount of moisture present in the air of the incubator; if there is high temperature required this will need watching; a saucer of water may be set in the air filter or on the hot water coil underneath; or a wet sponge or piece of gauze may be hung inside.

VENTILATION.

The air supplied to the incubator should be taken directly from out of doors; the best of incubators furnish barely enough air and it should be the purest obtainable. There is a box in the air inlet in which cotton may be placed as a filter, and this should always be done unless it is found that it interferes with the circulation; in warm weather it must usually be dispensed with. The wheel at the top of the ventilating chimney must be noticed, and if the apparatus is not ventilating something should be done about it or the child removed; this indicating wheel needs an occasional oiling and must be handled with great care.

In short, though an incubator is practically automatic it needs intelligent care. It may at any time get out of order, and the nurse should be able to recognize the fact when it occurs.

VALUE OF INCUBATORS.

De Lee, who speaks from a wide experience, looks upon the incubator as an essential factor in the care of premature children. Holt and Edgar, equally good authorities, are skeptical as to its value. Tarnier, who was one of the first to use it, publishes statistics which prove conclusively its efficiency.

The chief criticisms are that the ventilation is uncertain, and that there is danger of infection being carried from one occupant to the next. These are just criticisms and should be kept in mind by those who have the care of these cases; though they may be entirely obviated by careful attention. It is, however, an open question whether any incubator supplies a sufficient quantity of fresh air to its occupant.

WHEN TO INCUBATE.

All authorities agree that infants weighing 3½ pounds or less should be put into an incubator if one is obtainable. The enthusiasts advise incubation for children under 5 pounds weight, especially if there is subnormal temperature. The doubters prefer not to incubate any child which has a fair chance of life without it; and the facts are that a healthy baby of 4 pounds can ordinarily be raised without difficulty in the usual way.

ESSENTIALS OF CARE.

De Lee considers proper feeding the all-important matter in rearing premature children, and declares a diet of mother's milk essential. Edgar, and Sherman (of the Buffalo Children's Hospital) lay stress on keeping up the bodily heat. De Lee and Edgar emphasize the importance of early feeding; while Holt and Rotch think that this may be omitted for the first day. When the doctors disagree it is best to give the baby the benefit of the doubt and give care to all matters which may be of importance.

TEMPERATURE OF INCUBATOR.

The temperature at which the air in the incubator is to be kept depends upon the size and age of the child. It should be borne in mind that it has been accustomed to about 100° F., and a small and frail child needs nearly this. A child 3½ pounds weight may be kept at a temperature of 85° to 90°, but for one of less than 3 pounds 90° to 95° is advisable. If a child thrives with the incubator at a temperature of 80° it may safely be taken out and simply kept in a warm room. The amount of heat must also be varied according to individual needs. If a baby perspires or is fretful it will do no harm to reduce the temperature a little and watch the results.

WHERE TO PLACE THE INCUBATOR.

The apparatus should be in a room on the sunny side of the building, but should be shaded from strong light. It is important also that the room should be well ventilated, as the constant attention required necessitates the frequent opening of the door or the window of the case.

BED.

If cotton is used for a bed it should be cotton batting, not absorbent cotton. It is best put into a small pillow slip, as this keeps it from becoming disarranged and lumpy. De Lee insists upon the use of down for this purpose, and he is undoubtedly correct. A down pillow about 16 inches square can be bought for 50 cents and will not be more expensive in the long run than to renew the cotton. The bed should not entirely cover the grating, as it interferes with the circulation of air.

THE CHILD'S CLOTHING.

In regard to the infant's dress, the less the better. Holt agrees with the common practice of wrapping it in cotton, keeping this in place by bandages. De Lee objects seriously to this; declares that it prevents proper action of the skin and that it may even cost the child its life. Any nurse who has tried it knows that it is troublesome and unsatisfactory; in a few hours the baby will be found with knees, feet and elbows bare and a mouthful of cotton.

The best arrangement is a sleeveless dress of fine wool flannel; a tiny band of the same is used to hold the navel dressing in place; the diaper, if it is used at all, should be of soft gauze and absorbent cotton, fastened loosely; these children lie so quietly that often a piece of cotton under the buttocks is all that is necessary. The feet may be protected by small wool bootees or stockings, which some friend of the family will be delighted to make. The hands and feet are nearly always cold and need special attention; a hot water bag may be used for the feet, but the nurse must be sure that it is not too hot. In some cases a little wool cap for the head may be of advantage. A soft wool blanket may be used for covering, but it should be very light so as not to interfere with the child's movements.

(*To be continued.*)

RESTRAINT FOR TROUBLESOME PATIENTS.

The reply of the superintendent of a hospital for the insane, now dead, to an attendant who asked permission to restrain a particularly troublesome patient, is worth noting. He said, "Not until you have tried every other means. Put your brains above the level of canvas and leather, and you'll find canvas and leather unnecessary."—*Brit. Jour. of Nursing.*

CLINICAL DIAGNOSIS FOR NURSES

By Albert T. Lytle, M.D.,
Buffalo N. Y.

(*Continued from page* 117.)

The various phenomena presented by the tongue offer a great many diagnostic features indicative of the state of the body generally. Lying as it does at the entrance of the alimentary tract the condition of the tongue is influenced by all diseased states of that tract and, owing to the close relationship this organ gives many features pointing to ailments of the respiratory system. In particular should be observed variations in the color of the tongue itself; should be noted the absence or presence of "fur" and the character and color of the coating; should be seen the conditon of moisture of the organ; should be noticed the size, shape and movements of the tongue and the occurrence of abnormal surface markings.

In normal health upon being asked to protrude the tongue one should do so with promptness, pushing the tongue directly forward to a reasonable extent so that the posterior or circumvallate papillæ may be easily seen. The tongue when pushed forth should have steadiness of movement, should be held practically still when out, and should be retracted in the same steady, even, regular way as when protruded. The tongue may be pushed out in a spasmodic manner, or it may be uncontrollably jerked out and in, or it may "cleave to the roof of the mouth" when an effort is made to protrude it; these unusual movements occur in conditions affecting the nervous system, as chorea, hysteria, insanity and epilepsy; during an epileptic seizure the tongue is often bitten, which occurrence should always be reported no matter whether epilepsy be suspected or not. On the other hand, the tongue when projected may present a trembling movement of either a coarse or fine character; the former is seen in delirium tremens and typhoid fever, while the latter is present in some spinal diseases and occasionally in individuals of neurotic taint. It may be impossible to move the tongue at all, as from paralysis, or the movement on protrusion may be directed toward one side only, owing to paralysis of the side toward which the tongue is protruded; both these conditions are present in certain brain affections.

Just beneath the "tip" of the tongue and acting as a sort of "stay-rope" is a fold of tissue known as the "frænum of the tongue." Sometimes this is so short or is set so far forward on the tip of the organ as to prevent its protrusion or even its elevation to the roof of the mouth. Such a condition is known as "tongue-tie," a "bete noir" of all mothers and nurses, especially so if the infant does not nurse readily or does not talk easily. The attention of the doctor should be called to the phenomenon, when the diagnosis will be easily made and the error corrected; the condition is more frequently absent than present.

Any peculiarity of movement, either in protrusion of the tongue, in eating or in drinking should be carefully recorded and brought to the attention of the attending physician.

In size, the tongue should fill up easily all the closed-mouth space included between the teeth and the roof and the floor of the mouth. The tongue may be of so great a size and so overfill the mouth as to be constantly protruded, a predicament known as "megaloglossia," typical in cretinism and some other diseases of lymph tissue. Moderate increase in size is proven by the presence of marks produced by indentation of the teeth, occurring where the tongue is pressed against them; this phenomenon is associated with catarrhal states of the alimentary tract, with conditions of deficient blood value, in certain diseases of the tongue itself and in septic states. On the other hand, the tongue may be very small, "microglossia," a condition present in mild form late in typhoid fever and in certain paralyses in which progressive atrophy takes place.

The normal shape of the tongue is flat, spatula-like, and moderately thin. In abnormal conditions, on protrusion, it may present a broad, thick, doughy appearance, or else have a very narrow, thin, spearhead-like shape; both of these point to a more or less disturbed state of the alimentary canal.

The tongue surface in health is relatively even and smooth, but it may show scars from having been injured either by external violence or by having been self-bitten (as in epilepsy), or from ulcers and like injuries from disease (as in syphilis). When such abnormal appearances as scars upon the tongue are noticed such should be brought to the doctor's attention, as they may be corroborative signs of so grave a disease as cancer. Fissures are also important forms of tongue markings because they frequently aid in determining the diagnosis in obscure conditions, as in syphilis, in diseases of the liver, in alimentary disturbances and in diabetes.

Among ulcers of the tongue are found those painful little erosions called "canker sores," indicative of gastric troubles and so frequent in little children; these are really "cold-sores" or herpes, true "cancrum oris" being a malignant deforming disease. Another variety is "aphthous ulceration," small white ulcers, occurring chiefly in children under three years of age and associated with some febrile disease. Still another form, simulating this last and known as "thrush," is seen in the small white spots often very numerous and due to the presence of a fungous growth. Certain forms of aphthous ulceration appearing in a child's mouth have very grave import, so the discovery of anything simulating these "aphthæ" should be at once reported to the physician.

The tongue is ordinarily pale red or shell-pink throughout its entire surface, not shiny but dull like ground-glass. The color of the tongue itself may be pale from anemia, buff-colored from great physical depresssion, bluish from cyanosis, bright red in fevers and local inflammations, and yellowish in jaundiced conditions; the colors from these conditions are uniform throughout the entire tongue. The tongue may be spotted with areas varying in color according to the cause, as red, brown or black in minute hemorrhages and yellow and white in certain dermatological discrasias. The tongue may be colored from the dyeing effect of various foods, drugs and pigments, as red from the taking of corrosives like washing-soda, black from taking of bismuth or iron, brown from the use of tobacco or butternut shells, blue from blue berries, and so on.

The tongue has the moisture usual to body cavities and mucous surfaces, and it has as well the presence of the salivary secretions to insure its being, in health, always moist. In consequence, dryness of the tongue is the only abnormal condition. Dryness may be due to local inflammations, to mouth breathing, to fevers and to neurotic conditions. In disease, drying of the tongue is of evil import; as modern attention to the mouth prevents the attending physician from seeing its presence a record should always be made of its onset. On the other hand, in a grave case the return of moisture to the tongue is ever a hopeful sign and it should as surely be brought to the attention of the doctor.

In health the tongue has no coating upon its surface except possibly a slight "fur" at its base. At other times this organ becomes more or less covered with a "coat," the cause of which has not as yet been exactly determined; it is known, however, that the "coating" consists of accumulated epithelium, microorganisms and food debris. Movements, condition of moisture, and the character of the food are factors which influence to a greater or less degree the appearance of the "furred" tongue. The coat may be thin or thick; the former, white in color, is always present in mouth breathing, in mild respiratory and alimentary disorders, and in slight febrile states; the latter, when white, is found in those on an exclusive milk diet; if yellowish and pasty, in those cases accompanied by intense febrile movement and in marked disturbances of both the alimentary and the respiratory tracts. In heavy smokers and in immoderate alcoholic drinkers a heavy white fur is a common morning appearance, which wears away during the day.

The coating may change in color from white, to yellow, to brown, and even to black, a change which is an ominous sign of impending evil indicating great depression of vitality; these changes have a much more serious indication if, as usually happens, the coating becomes dry and fissured; such alterations are typically depicted in typhoid fever. A "beefy" tongue, in some forms called "parrot-tongue," is one in which the fur and the normal epithelial surface have disappeared, leaving a shiny, glazed, red, dry surface, an appearance pointing to great physical enfeeblement and to a grave outlook; such tongues are seen typically in late Bright's disease and other severe visceral diseases. The color of the coat may also be altered by drugs or food pigments, as black from iron or bismuth, blackberries or blueberries, brown from chocolate or licorice, yellow from laudanum or rhubarb.

In children, in certain severe states of the alimentary tract, the coating is absent in spots, especially at the tip, so that the red denuded surface of the tongue shows through; the spots are in size and shape like the worm-eaten holes in leaves. In scarlet fever the white coat seems to be pierced with red spots so as to make the tongue look strawberry-like, hence its name, "strawberry-tongue." These special appearances are present in other conditions and their discovery should be a signal for callin the doctor.

In adults, patches, plaques, hard areas, nodules and other irregularities are often the forerunners of severe constitutional, visceral or local disease, so that the finding of them, usually by accident, should be brought to the notice of the medical attendant at once so that future suffering may possibly be prevented.

The ingestion of poisons often leaves telltale appearances on the tongue; bichlorid of mercury causes the tongue to become white and shrivelled and the papillæ to show large; nitric, muriatic and chromic acids cause the tongue to shrivel and take on a yellow color; sulphuric acid causes first a white parchment-like appearance, which changes to gray and then black, followed by sloughing; carbolic acid causes puckering, shrivelling and, if the acid is pure, a white color; oxalic acid causes the tongue to look as if scalded; potash, soda and ammonia produce softening and give a spongy and pulpy appearance, old ivory in color, the surface being easily rubbed off. As the nurse is often the first to see those who have accidentally or otherwise taken such substances, a careful examination should be made of the tongue and mouth, as their condition may be of great aid in assigning a cause for the symptom-complex that is present and in indicating the kind of relief to be administered.

(*To be continued.*)

200 Lexington Ave.

TRAINING SCHOOL FOR DISINFECTORS.

In Prussia during 1905 about 64 official nine-day courses of lectures on practical disinfection were given at 17 different points; 533 persons attended the lectures, and 533 passed the examinations and received certificates as officially tested disinfectors. Besides the above courses a number of three-day courses were held for nurses, and about 200 nurses were thus trained for the disinfecting service, especially for continuous bedside disinfection, while the licensed disinfectors were trained especially for the terminal disinfection. Every three years the licensees must submit to further tests, and take another course of lectures at the end of six years. Steam disinfection apparatus are preferred to formalin apparatus as a rule. The *Münch. med. Wochschr.* mentions further that applicants must be under 45.—*Jour. A. M. A.*

The only way to have a *friend* is to be one.—Emerson.

TREATMENT OF PATIENTS AND METHODS OF STERILIZATION AT ST. MARY'S HOSPITAL, ROCHESTER, MINN.*

By Samuel G. Gay, M.D.,
Selma, Ala.

When the patient enters the hospital the day before the operation he is given two ounces of castor oil in lager beer, to disguise the taste, together with a small amount of beer following the oil and beer. A light supper and a bath are given the evening before operation, but nothing in the way of food or drink is given the morning of operation. The diet for supper is modified in stomach cases; they receive eggnog or milk only and their stomachs are washed out if there is any obstruction.

All cases are shaved in preparation room on the morning of operation. Nothing is applied to shaved surface. They are washed with ordinary soap and water, using only sponge on operating table, after which the operative field is washed off with Harrington's solution for 30 seconds, and then thoroughly with 70 per cent. alcohol.

Harrington's solution is expected to destroy germ life in 30 seconds. Formula for Harrington's solution is:

Hydrarg. bichloride........	3-2
Acid hydrochloric, C. P....	240-0
Aqua dist..................	1200-0
Alcohol, grain..............	2560-0

In dirty emergency cases and those that are stuck up with plaster, etc., spirits of turpentine is used to clean surface. In cases suffering from shock, saline solution is given per rectum, about one quart being administered, and this may be repeated. Occasionally brandy is given with the saline solution. Saline is rarely used subcutaneously. A hypodermic of strychnin is seldom used.

Stomach and goiter cases are given morphin sulphate, gr. 1-6, one-half hour before operation, and goiter cases get, in addition, atropin sulphate, gr. 1-120.

Hot water is commenced on the afternoon of operation, about 1 oz. at a time, in ordinary cases. In suture cases of the stomach, hot water is commenced in twenty-four hours, beer on second day, buttermilk on third, alternating with beer, toast and light diet on eighth or ninth day, gradually going to solid food. If vomiting is protracted or returns, the stomach is washed out and calomel, gr. ¼, every half hour, may be given until eight or nine doses are taken. Uncomplicated abdominal cases get 1 oz. of castor oil on the fourth day. Drainage cases are not usually given it until seventh day. Soap enemas are given any time gas becomes troublesome. Seidlitz powder is given in gallbladder cases on the sixth day; cascara, in stomach cases, on tenth day. In cases showing obstructive signs a long rectal tube is used for enemata, first, with soap and water; second, with magnesia sulphate and glycerine; third, alum, 1 dr., to pint of water; fourth, if stomach is nauseated it is washed out and castor oil is administered through tube. Vaginal or panhysterectomy cases have, the evening before operation, thorough and free scrubbing with soap and water, followed by bichloride mercury, 1-3000, or hot boric acid douche, and sponged out with alcohol.

In cancer or infected vagina, the douching is followed by packing the vagina with iodoform gauze wet with tr. iodine, which usually remains five days. This is followed by one or two vaginal douches daily of bichloride solution or creoline. Diet in these cases is hot water for twenty-four hours, followed by beer and buttermilk, gruel, and milk toast for three days; in a week, general diet.

In protracted vomiting, rectal feeding is resorted to, which consists of beef, milk, gluten 2 oz., hot water 1 oz., repeated every six hours; endeavoring to use also two saline enemas of one quart each in twenty-four hours.

Chloroform is rarely used as an anesthetic —only when compelled to upon patients with lung complications, or when the cautery is to be used about the mouth.

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*Report read before the Surgeons' Club, Rochester, Minn., and printed in *Northwest Medicine*.

Suture materials used are: catgut, silkworm gut, horse hair, and celloiden linen.

METHODS OF STERILIZATION.

Catgut (Bartlett's method):

First, dry catgut in hot-air chamber; cover bottom of this chamber with asbestos paper, being careful not to permit the gut to come too near the side wall of the sterilizer on account of causing the gut to become hard and brittle. This is heated slowly, endeavoring to reach a temperature not exceeding 220 degrees F. At 180 degrees the thermometer should be carefully watched to prevent temperature rising too rapidly, holding at 220 degrees about 30 minutes.

Second, catgut is then transferred to an asbestos-lined kettle, where it remains in liquid albolene for twenty-four hours.

Third, it is then heated in a sand bath, carrying temperature gradually to 320 degrees F. in one and a half to two hours, holding at this degree one hour. The same precaution is used in regard to rise of temperature in oil as in hot air. After the temperature reaches 280 degrees it should be watched very closely and it is better that it be kept at 318 degrees, just short of 320 degrees, as any above this degree causes catgut to become brittle. These kettles are covered with cardboard with a small hole in the center, through which the thermometer is passed and kept.

Fourth, the catgut is kept in sterilized glass jars, containing 1 per cent. crystal iodine, in best Columbian spirits, not using grain alcohol. It is well, after catgut has been boiled in oil, to hold it up, allowing the excess of oil to drip from it. The numbers used are 1, 2 and 4.

Silk worm is sterilized by boiling with instruments eight or ten minutes, or in steam sterilizer with dressing for one and a half or two hours. This is kept in grain alcohol 60 per cent., water 40 per cent., crystal iodine 1 per cent.

Horsehair is washed in soap and water for five or six days, changing water each day, then put in bichloride of mercury 1-1000 for twenty-four hours, boiled three minutes, not longer, and kept in same solution as silk worm.

Linen is boiled eight or ten minutes with instruments. Towels, dressing aprons, etc., are sterilized by steaming for one hour and a half or two hours, Scanlan-Morris sterilizer being used. Gloves are boiled in plain water, and repaired by using Goodrich cement No. 1, Akron, Ohio. Rubber tissue is washed with soap and cold water, rolled in gauze and kept in bichloride of mercury solution 1-1000. Iodoform gauze is purchased already prepared and is re-sterilized each day before using.

Hands of operators are prepared by thoroughly and freely scrubbing with soap and water, then Harrington's solution, followed by alcohol. Solution in basin for hands during operation is 1-4000 bichloride.

THE DOCTOR'S LEGAL LIABILITY FOR THE ACTS OF HIS NURSES.

The leading article in a recent number of the *Medico-Legal Bulletin*, of Fort Wayne, discusses the various legal opinions and decisions on "The Medical Practitioner's Legal Liability for the Acts of Associates and Assistants." We are glad to have the opportunity to give our readers so much of the article as applies to the relations of physician and nurse:

The question of a physician's liability for the acts of nurses in charge of his patients is continually arising, and there appears to be considerable haziness in the minds of the legal as well as of the medical profession upon this subject. The relationship sustained between the nurse and the patient, and between the nurse and the physician, differs so materially in different cases that it is difficult to lay down any general rule. As a preliminary observation it should be stated that it is not a part of the physician's usual duty to render his patients services such as are ordinarily performed by a nurse.

This was laid down in the case of Graham vs. Gautier, 21 Tex. 112, where the defendant, who was being sued by a physician for his fees for attendance upon the defendant's slaves, answered that ten slaves had died because of want of care. The Court said: "The houses in which the slaves were lodged were open, the weather was not good, they were not well provided with bedding and clothing, and were left in these out-houses mainly to themselves, apart from any white family to see that they were properly nursed and provided for (white family being sick at another place at the same time.) It would have been rather a matter of astonishment if all these negroes had survived under such circumstances, with the best medical skill and professional attention. *The physician was not bound to nurse them and provide for them. It was his business to instruct others how to do it.*"

As said above, the question of the physician's liability may arise under various circumstances. The nurse may be engaged and paid by the patient without the physician having any voice in the matter; or the patient may request the doctor to recommend a nurse and to engage her services; or the physician may employ and pay the nurse himself. In all of these instances it is undoubtedly a part of the physician's duty to instruct the nurse in relation to the treatment which he has prescribed for the case, and he would undoubtedly be liable for injuries resulting from the acts of the nurse which he had expressly commanded or ratified. In none of these instances, however, except the last, would he be liable for the torts which he had neither commanded nor ratified, because in these instances it cannot be said the relationship of master and servant exists between him and the nurse. Rather they stand with reference to the patient in the position of fellow servants, and neither is responsible for the negligence of the other.

This question often arises where a patient goes to a hospital recommended by a physician, and is injured by the nurses in the hospital. In such cases it has been expressly held that the doctor is not responsible. In the case of Baker vs. Wentworth, 29 N. E. 587 (Mass.), the physician brought action for his fees, and a counter-claim for malpractice was pleaded by the defendant. At the trial the plaintiff testified that defendant's wife came to him for medical treatment, and that he advised her to have an operation performed and to go to a certain hospital in Boston for the purpose. It appeared that the patient was injured through the negligence of the nurses in the hospital; and the plaintiff offered to show that he was not the proprietor or manager of the hospital. This testimony was admitted, and the Supreme Court held on appeal that it was properly admitted, because the plaintiff could not be chargeable with the negligence of the nurses, unless he sustained such a relationship to the hospital. The same decision was also reached by the English Courts in the case of Perionowsky vs. Freeman, 4 F. & F. 977. In this case, a person who had been a patient at a hospital sued the defendants for malpractice. It appeared from the evidence that the alleged maltreatment was in the administration of a hot bath which the defendants had ordered, but which it was not part of their usual duty personally to direct or superintend, and at the actual administration of which they were not present. It was held that the plaintiff was not entitled to expect more than usual care at the hands of the defendants, and that if they were not personally aware of the alleged ill-treatment, they were not liable.

Where a physician regularly employs a nurse and keeps her at his office to assist him in the regular treatment which he renders his patients, a different rule would undoubtedly apply, and he would be responsible for her failure to exercise due care. Furthermore, where a physician maintains a private sanitarium or hospital, and expressly or impliedly agrees to furnish nurses to the inmates of such hospital, he would be subject to the usual rule of liability applied to private hospitals in general. This was held in the very recent case of Stanley vs. Shumpert et al. 41 Sou. Rep. 565, decided by the Supreme Court of Louisiana last June.

This was an action against Dr. S. as the proprietor of a private sanitarium. It appeared that the plaintiff had been admitted to the sanitarium as a patient under the charge of his regular physician. The physician prescribed a mild solution of alcohol to be administered by one of the nurses of the sanitarium. The nurse negligently applied pure alcohol instead of the solution, and the plaintiff claimed that as a result of this negligence he had lost his eyesight. It was held that the defendant was liable for the negligent act of the nurse. The Court says: "The proprietor of a drug store has been held liable for the mistake of his clerk. The general responsibility of a druggist and of his clerk is greater than are the duties of the nurse. None the less, the functions of the nurse are sufficiently important to render her and her employers liable in damages for inflicting pain negligently. This nurse was employed by the sanitarium and had charge of plaintiff's case in accordance with his contract of employment. She was acting for the sanitarium under the direction of plaintiff's physcian. Her duty was to carry out the orders of this physician, and it was the duty of the sanitarium to see that she carried out the orders devolving upon her as a nurse. The physician could have had another nurse called in her place, but he had no right to discharge her. The management of the sanitarium had the right of control and of discharge.

"We think that the plaintiff should recover something for the intense suffering, though momentary, which the negligent mistake occasioned."

"Every man is a quotation from all his ancestors."

It is better to be faithful than famous.—Roosevelt.

THE HOSPITALS OF PRETORIA AND CAPE TOWN.

In this article we present excerpts from the last two letters of Dr. Nicholas Senn to the *Journal of the American Medical Association,* describing his observations during his recent extensive journey in Africa. We venture to say that those who have followed this interesting and instructive series of letters have a better opinion of the medical advantages enjoyed by the cities of Africa than they dared to entertain before. For this opinion, as for many other fruits of his wide travels in distant parts of the globe, we are deeply indebted to Dr. Senn:

Pretoria, the former proud capital of the republic of South Africa, is only two hours distant from Johannesburg by rail. There is nothing to be seen here which would remind one of the terrible struggle which the brave Boers made in defending their rights and in maintaining their independence. Their leader, the late President Kruger, sleeps now in the little cemetery, surrounded by members of his family, who preceded him in death, and blue violets are blooming on his grave, symbolic of the purity of his private and public life. The city remains the same as before the war, but the magnificent public buildings, built and paid for by the Boers, are now in possession of the new administration. The Boers, a law-abiding people, have accepted their defeat in humility. Their worldly losses will be repaired in course of time, but the wounds inflicted by the cruel war will never heal under the present methods of foreign administration.

The city has about 25,000 inhabitants and is beautifully situated in a valley, surrounded by picturesque mountain scenery. It is an ideal capital city without the noise, smoke and disturbances of manufacturing establishments. It has wide, well-paved streets, many beautiful residences, very interesting botanic and zoologic gardens combined, good public schools, fine churches and a most excellent little hospital.

THE PRETORIA HOSPITAL.

This hospital was completed, as indicated by an inscription on the cornerstone laid by

President S. J. P. Kruger, June 21, 1890. The hospital, built of brick on the pavilion plan, has accommodations for 170 Europeans and 80 natives. It is charmingly located in a quiet outlying part of the city on an eminence and in the midst of large grounds, tastefully laid out and ornamented with evergreen trees, shrubs and a profusion of flowers. The general wards are airy, well-lighted and everywhere the most scrupulous cleanliness prevails. The snow-white linen, the cheery fires in open grates, the happy contented faces of the patients, white and black, old and young, suggest that the management of the institution is in competent hands. The nursing is in charge of five English sisters, assisted by 45 pupil nurses, who remain in training three years before they are permitted to apply for the final examinations. The corridors and walls are paved with large squares of artificial stone admirably adapted for this purpose. Dr. G. Thornton, the medical superintendent, lives in a comfortable, well-appointed house in the same grounds. The nurses' home, recently completed, is what such an institution should be, a real home for the nurses with all the comforts of a home. Dr. Thornton and his wife, formerly a trained nurse, devote their whole time and attention to the best interests of the institution and the comfort and well-being of its inmates. Dr. Thornton is a careful, conscientious practitioner and thoroughly devoted to his patients, regardless of their color. The natives in this hospital receive more consideration and care than in any other hospital visited.

TRANSVAAL LEPER SETTLEMENT.

Five miles from Pretoria in a valley surrounded by hills is the Transvaal Leper Settlement, founded by the Boers long before the war and now administered by the new government. It is a large village made up of comfortable little houses in separate groups for males and females, whites and blacks. The administration building, in which reside the superintendent and physician and supervising trained nurse, and in which the pharmacy and offices are located, are modern, substantial structures. The number of lepers who reside here now is 330, of which 280 are natives and 50 whites, most of the latter are Boers of the lower classes. The village is laid out in streets, and includes a neat little Dutch Reformed church, school house and a building for public amusements. Small vegetable and flower gardens contribute much to mitigate the picture of human woe and suffering seen on all sides. Segregation is aimed at, but not strictly enforced. Friends and visitors are admitted on stated days, and by obtaining permission the lepers can leave the enclosure, but must return the same evening. The settlement is under government control and all expenses are paid out of the public fund. Patients are paid a small sum for their work, if they choose to employ a part of their time in that way. This is an excellent thing, as useful employment chases away melancholy, and with the little money earned the patients can buy for themselves such things as will make them more comfortable and happy. All the patients were decently dressed, their surroundings were clean and their general appearance indicated that they are well cared for and make the best of their misfortune. I saw here many cases in which the disease had produced frightful ravages, both in the tubercular and in the anesthetic forms. The treatment pursued is entirely symptomatic, no vaunted specifics are tried. Miss A. M. Whiteman, an English trained nurse, is the ministering angel in this valley of human suffering and misery. The patients respect and adore her and she is devoted to them. She speaks Dutch and all the native tongues, and all come to her when they are in trouble, or in need of her services, which she so cheerfully and willing renders them.

> "For man to assist man is to be a God.
> This is the path to eternal glory."
> —PLINIUS MAJOR.

CAPE TOWN.

Cape Town is the metropolis of South Africa and the capital of Cape Colony. It is situated at the base of Table Mountain on the southwest shore of Table Bay. It was founded by the Dutch in 1562, and ceded to Great Britain in 1815. The location of the city is picturesque in the highest degree. It faces the broad Table Bay and behind it are the almost perpendicular huge gray granite walls of Table Mountain. The city was laid out by its Dutch founders with mathematical precision, all its principal streets running in straight lines from the mountain to the sea and being crossed again by the other less important ones at right angles. It is the easiest city of its size for the stranger to find his way without a guide; he can not possibly get lost, as the city occupies the narrow but long belt of land hemmed in on one side by the mountains and on the other side by the bay. Its length, with the many suburbs, must be at least ten miles, while its width does not exceed anywhere three-quarters of a mile. The main streets and sidewalks are wide and well paved and kept in good repair and thoroughly clean. The perfect system of sewerage, the abundant supply of pure water from the mountains and the superb climate make it one of the healthiest cities in the world. It is lighted by electricity and the two-story electric tramway cars promote easy transportation to all parts of the city and suburbs.

The principal business street is Adderly Street, which is to Cape Town what State Street is to Chicago or Broadway to New York. At the business end of this street a broad street-like walk lined on both sides with venerable oak trees leads to the base of the mountain. On the right side of the magnificent walk are the Botanical Gardens and South African Museum. In these gardens will be found nearly all the principal trees and shrubs indigenous to Africa, all labelled in botanical terms. It is a pity that the common names by which the people know the trees and shrubs are not given in the legends. The museum contains a fine collection of wild animals of Africa, well mounted and kept in excellent condition. The collections of minerals, birds and insects are very large and well arranged. The oldest landmark in the city is the castle, an old-fashioned fortress on the very edge of the bay, built by the Boers in 1660; in its almost medieval Dutch architecture, it forms a curious sight among the modern surroundings.

The road from Cape Town to Vynberg, over which the tramway passes, is lined on both sides with veteran oak trees, which the Dutch imported and planted more than a century ago. They are not the tall, smooth-stemmed, proud oaks of our forests, but low, knotty, many-branched trees, which have managed to live and to attain extreme old age on this to them foreign soil, but would look strange and unfamiliar to their kin in their native land. On this road 15 minutes from Rondebosch station, is the famous "Groot Schuur" (Great Barn), one of the many African residences of the late Cecil Rhodes. The palatial house built in Dutch style is in the midst of a magnificent flower garden in an open place surrounded by a dense forest of indigenous and planted trees. The location is an admirable one for a restful retreat, and which the great statesman and financier must have enjoyed when he took the time to leave his work and take a rest. The house is now occupied by Premier Jameson, of Jameson Raid notoriety—a strange piece of history.

The present population of Cape Town is about 100,000, including the natives. The natives here resemble in every respect the colored people of our northern cities and are engaged in similar employments.

SOMERSET HOSPITAL.

This is the only hospital in Cape Town. A large, centrally located dispensary takes care of the bulk of the sick poor who do not require hospital treatment, thus relieving the congestion in the out-door department of the hospital. The hospital was built forty-five years ago, and has undergone many material alterations since that time, and has been enlarged with the increasing number of patients seeking admission. It is beautifully located near Green Point and the docks of the Union Castle Steamship Company, facing the spacious harbor. The front of the building is stone and cement; its many windows, wide entrance, two corner towers and the ornamental grounds in front of it give it the appearance of a royal mansion, rather than that of a home for the sick.

The interior of the hospital leaves much to be desired to meet the requirements of such an institution in these days of hospital perfection, and it is strange that such an old city with its many citizens of wealth should not have arranged before this for the necessary changes which are urgently needed. A staff of eight doctors, four surgeons and four physicians, each of them with a long string of capitals behind their names, a resident surgeon and three resident medical officers are in charge of the sick and injured. The only specialists are an ophthalmologist and a dental surgeon. In none of the African hospitals I have visited have I found a gynecologist, although pelvic surgery forms an important item in the hospital reports. Pelvic surgery is included, as it should be, in general surgery, and constitutes a part of the legitimate work of the attending surgical staff.

The Victoria Nurses' Home, in the same grounds, is nearing completion at a cost of about $33,000. It is a handsome two-story brick building and when ready for occupancy will meet one of the urgent needs of the hospital. The nursing is in charge of nine ward sisters, one night superintendent, one operating theatre superintendent, and 36 probationers. The report of the hospital for 1905 shows that *amour* does not disdain to enter here, as elsewhere, the sanctity of a hospital, as during the year two ward sisters and four nurses resigned from the nursing staff to be married. Of 116 applicants to enter the training school, only 22 were accepted, and many of the probationers left during the first three months, owing to unsuitability.

The hospital has space for 191 beds, including the two wards for natives. At the time of my visit only the children's ward was full. In the other wards half of the beds were not occupied. As in South Africa, it is during the summer months that the hospital has the largest number of patients. As the institution takes care of all sailors who require hospital treatment, its inmates represent many nationalities and languages. The total number of patients treated during the year was 1977; 1190 were Europeans and 636 colored. Of this number 170 died, 87 Europeans and 83 colored. The last two figures attract attention when we consider the small number of blacks who are in the hospital, as compared with the whites.

The average daily cost per in-patient was $1.55. The total maintenance expenses amounted to over $100,000. Toward meeting the running expenses of the hospital the government grant of $55,000 furnishes the bulk, the income from paying patients is a little over $10,000, and the balance of the expenses is made up by subscriptions, donations and collections. Among the donations one appears in the list like this: "U. S. America Government appropriation, as contributed to hospital per Horace Lee, Washington, American consul general, pounds 10, 2s., 8d."

This hospital appears to have more grateful, appreciative patients than others, as in the list of donations marked "Grateful patient" one contributed $50, another $2.50, one $5.25 and a third one $10.

The clinical material of the hospital is not of special interest to the surgeon, as it is almost identical with that of any hospital in the eastern, western and middle states. In the children's ward I saw a child, three years old, recently operated on successfully by the bloodless method for double congenital dislocation of the hip joint. I was told that it was the first operation of the kind in Africa. Tuberculosis of the lungs is very frequent.

The report states: "The number of cases of tuberculosis is remarkable. The cases we get are generally far advanced and the ravages of this terrible disease, especially among the colored people, are truly appalling." Many of the negroes afflicted with the disease die in three months from diffuse miliary tuberculosis. The mortality of tuberculosis in Cape Town is increased by patients coming from Europe, too late to be benefited by change of climate and who are too sick to return to their homes with any hope of reaching their destination alive.

The beds of typhoid patients in the general ward have a white instead of a blue bedspread to distinguish them from the other patients, which at once reminds the visitors and nurses of the nature of the disease of their occupants. In the ward for colored women I examined a patient who was suffering intensely from advanced carcinoma of the pyloric end of the stomach. The woman was a half caste about 40 years of age.

I must repeat here in completing my account of hospitals and diseases of Africa that what I have emphasized a number of times has been confirmed by subsequent observations, viz.: 1. The pure-blooded negro is almost, if not entirely, immune to carcinoma and inflammatory diseases of the appendix. 2. In consequence of adoption of civilized habits and change of food, and especially by the admixture of the blood of the whites, he gradually loses this immunity and becomes subject to all the diseases of the whites, including carcinoma and appendicitis.

The farther I got away from the real primitive negroes of the east coast of Africa, the more frequently I heard of the occurrence of these diseases among the negroes, who for fifty years and longer had been under the influence of civilization, and most of the patients were half castes.

On board S.S. *Kilderman,* July 20.

DISTRICT NURSING AT WELCOME HALL, BUFFALO.

THE work of the district nurse is always interesting, wherever her field of usefulness may be; and every nurse has her own fund of peculiar experiences which distinguish her life from the lives of the many who are following similar lines. Miss Anna J. Ballantyne contributes to *Hospital Topics* the story of some of the poorest of the poor folk with whom she has come in contact in that part of Buffalo which is so efficiently served by the Welcome Hall settlement. We are glad to copy a few paragraphs from her very graphic article:

One of my cases was a woman in the last stages of consumption. She had a husband and five children, the eldest twelve years of age. Each day I went I arranged the sick room, which was topsy-turvy, bathed and made the patient as comfortable as possible, and washed the floor with a disinfectant solution. When this was finished, I would arrange the children in a row and wash their faces and hands, which were as black as the stove. Every day conditions were the same, and I was discouraged. One day, after sweeping and cleaning the house and washing twenty-seven milk bottles that had accumulated, the patient asked me if I could make apple pie and Johnnie cake. I told her yes, and arranged to come the next day as usual. After going through almost the same performance the next day in cleaning the house, I made an apple pie, a pan of raised biscuits and a Johnnie cake. The mother sent one of the children out to the store to buy an oil-cloth for the kitchen table. I then set the table and the children had a real feast. The poor mother had no appetite and could not eat a bite, but enjoyed knowing the children were being cared for. I enjoyed seeing them eat their lunch, and felt duly repaid for my labors. I think it was the last real joy the mother ever knew. She died the next day. The husband is still supporting the children, and they are keeping house for him. Their aunt, a sister of the mother, was helping them for a while, but she was stricken with paralysis and was obliged to go to the hospital. After all that I had done for the family, the husband seemed quite independent, and said he would have nothing more to do with the Hall and would not even allow the children to come to the kindergarten; until one day one of the children got a splinter in her foot and blood poisoning set in. I was the first one he sent for, then.

A woman now goes in once a week to clean the house, and I go in often to see how they are getting on.

The Syrians, on first acquaintance, are a retiring and superstitious people, but when they see that I mean to do them good instead of harm, they try to do as I advise. I was called to an obstetrical case in a Syrian family some weeks ago. The baby had arrived, and the grandmother had given it the first bath, which was only added misery, for she had packed the baby in salt and bandaged it tightly around the joints, claiming that it made the child strong. It was crying pathetically and would not be quieted, and when they asked me why it cried, I said it was because its eyes were full of salt. I proceeded to give the baby a bath, and they said they wanted it washed in salt water for three successive days. It took me a whole week to teach them that plain sterilized water was the best. I attended this case for two weeks, and spent much time trying to teach them hygiene and how to care for the baby.

In serving their meals they do not all sit down to eat at the same time. The men must be served first. I have, on different occasions, visited their homes at meal times, and once found the husband eating out of the frying-pan and cutting bread with a razor. Some of them are learning to keep house quite nicely, but neglect their children. They are strapped down in their cribs until they are six months old. They then expect them to stand and walk, and the babies consequently suffer from bow-legs and rachitis. I find that teaching them hygiene and the proper care of their children are among my hardest duties.

THE CANADIAN NURSE IN THE UNITED STATES.

UNCLE SAM seems to have overlooked the trained nurse in devising our system of protective tariff. Or perhaps it was because he likes the Canadian nurses so well that he put them on the free list.

Charlotte E. Eastwood, writing in the *Canadian Nurse,* says: "There is one aspect of State registration that has of late been pressing itself on my mind, and that is its great importance, because of the fact that Canada uses the United States so much as a field for her graduates to practice in. To make certain of this enquiries have been made of the superintendents of the Training Schools of the Province, as to how many of their graduates have gone to the United States of America. Though quite confident that numbers went over the border, it has been rather startling to find the percentage from many of our town hospitals, for it is the schools of the towns and smaller cities which send by far the larger quota. As nothing could be more convincing than to present the answers to many of my enquiries I shall proceed to do so.

"From Stratford: 'Fifty per cent. of our graduates have left for the United States.' From Cornwall: 'Seventy-five per cent. of the graduates of this institution are practicing in the United States.' From Sarnia: 'About half our nurses go across the border to nurse.' St. Catherine's: 'Looking over the names of the graduates of this school I find that at least half have at one time or another taken up work in the States.' Belleville General Hospital: 'About one-fifth of the graduates of the B. G. H. are nursing in the United States.' St. Joseph Hospital, London: 'About one in ten.' Woodstock: 'Eleven in the United States, eleven in Canada.' Lady Stanley Institute, Ottawa: 'Graduates number nineteen, twelve are in the United States.' Nichols Hospital, Peterboro: 'Twenty-four nursing, and twelve of these are in the United States.' Guelph General Hospital: 'One-third of the graduates are practicing in the States.' Marine Hospital, Owen Sound: 'One-third are practicing in the U. S. A.' Brantford: 'I am quite safe in saying sixty per cent. of our nurses have gone to the U. S. A. to practice.' Berlin and Waterloo Hospital: 'About thirty per cent.'

"I may not occupy space in more quotations, but surely we can come to but one conclusion, viz., that our Province graduates more nurses than she requires for home work, and that the United States is a very acceptable field for many of them. Then is it not all-important if we mean to keep our standing, that we see to it that our nurses are as fully equipped as any trained in the most advanced State?"

MEDICAL CHARITIES IN NEW YORK CITY.

THE latest and most complete analysis of the medical charities of Manhattan and the Bronx is the work of Florence L. Lattimore, and is coming out in the *New York State Journal of Medicine* as "a fellowship study for the New York School of Philanthropy." It is a careful and conscientious piece of work, filled with information concerning the details of all manner of medical institutions.

We present here a few excerpts, historical and otherwise, which will interest nurses. A satisfactory idea of the scope and value of this study can be obtained only by reading it in full as the successive instalments are published. We would call attention, in passing, to the author's appreciation of district nursing and its proper place in the training school course:

To study the modern care of the sick and injured is to trace the practical application of curative and preventive measures as developed in hospitals, dispensaries, homes for convalescents and chronic invalids, visiting nurses' associations, and other agencies devoted to the restoration of the sick, the preservation of health, and the prevention of disease.

The medical resources of a city sooner or later have to deal with the results of "hard times," overwork, undernutrition, unhealthful sanitary conditions, intemperance, and other causes which every year leave large numbers of the poor at the doors of its medical charities. In New York City, as elsewhere, there has been a rapid multiplication of medical resources to meet the need which could not be ignored and there is, in consequence, a group of hospitals and other institutions which minister to every kind of misfortune which has succeeded in robbing the individual of his health or which seriously threatens it. The emphasis which has been laid upon proper nursing and suitable surroundings has so far broken the prejudice and suspicion with which hospitals were formerly regarded by the ignorant, that the individual is now far more likely to go to a hospital at times of illness than he was a decade ago, and the rich and poor of to-day are placing a new reliance upon its care. * * * * * * * * * * * *

GENERAL AND SPECIAL HOSPITALS.

The first medical charity institution to enter the field in America, apart from the individual care given by religious organizations, was the general hospital. In this State it had its origin in an historic address made at the Commencement of King's College (now Columbia University), in 1769, by Dr. Samuel Bard. His plea for a public infirmary resulted in a petition sent by three physicians to the Lieutenant Governor of the Colony of New York for a charter of incorporation. The charter was granted by King George III. to the Society of the Hospital of the City of New York in America, a society which to this day has steadily increased its usefulness.

It was not, however, until 1791, after the Revolutionary War, that the hospital was opened to patients, and for nearly half a century it was the only general hospital incorporated as a private charity independent of municipal, county, or State supervision, which New York contained. The Charity or Almshouse Hospital, located in City Hall Park, came into existence at the same time the New York Hospital was opened, and clinical instruction was given in it as early as 1787; but Bellevue, which had its beginning in the Almshouse, after its removal from City Hall Park to East Twenty-sixth Street, was not opened as a hospital until 1816, and for ten years thereafter it continued to be little more than an infirmary for the Almshouse inmates. No resident physician was appointed until 1826, and there was no medical board to take charge of the service until twenty years later. * * * * * * * * * * *

Although the work of the hospitals of New York is diverse and difficult of comparison, yet in organization and management they are about the same. The Commissioners of the Department of Public Charities and the Department of Health are to the institutions under their control what the boards of trustees, directors or managers are to other hospitals and dispensaries.

The general organization is as follows: The trustees, managers or directors have full responsibility for the administration of the funds established for the benefit of the patients. Their duties are financial, executive and administrative, and they are responsible for their subordinates or appointees, such as the medical board, superintendent, nurses, clerks, etc.

The medical board is divided into a consulting staff, a visiting or attending staff, a house staff and a dispensary staff. The members of the consulting staff are appointed by the board of trustees and are generally the emeriti of the visiting staff. They may be called in for the purpose of consultation, but this rarely occurs and the office is chiefly honorary.

The members of the visiting or attending staff usually hold office for their full period of usefulness. They serve in rotation for a period of one or more months—usually three—and are responsible for the treatment of the patients, either directly or through the house staff.

The house staff is appointed either by the medical board or by the trustees, after a competitive examination held by a committee of the medical board. The ordinary term of service is six months as junior assistant, six months as senior assistant, and six months as house physician, the same plan being followed for the surgical side of the service. It has been the custom for the junior assistant to give ambulance service in the institutions where an ambulance is maintained. The house staff cares for the patients according to the rules and regulations prescribed by the medical board and the board of trustees. It carries out the treatment of individual patients subject to the orders of the visiting physician.

The executive head of the hospital is the superintendent, the administrative representative of the board of trustees, who has general administrative control of all departments and property of the hospital and is responsible for the efficient service of the hospital employes. This officer is appointed by the trustees, and holds office at the pleasure of the board. Through the superintendent patients are admitted, rejected or discharged, upon the recommendation of the medical staff. If patients are not able to apply directly to the superintendent for admission to the hospital an examining physician is sent to determine whether or not the illness is one which the hospital treats. Patients may be refused admission by the superintendent as not suitable under the rules of the institution, or by the examining physician. Patients are discharged, after treatment, by the superintendent on the recommendation of the medical staff. The superintendent, at his discretion, may, if the rules permit, allow a patient to stay in the hospital after his discharge is recommended. The superintendent of the training school for nurses is subordinate and responsible to the board of trustees through the superintendent of the hospital for the management of that part of the work.

The number of physicians occupying positions on the staffs of the hospitals in Manhattan and Bronx is about 1,800. The connection which many of the hospitals have with medical schools makes this figure somewhat variable.

The members of the house staffs numbered 400 in 1903-4, and 420 in 1904-5; while the dispensaries had about 1,512 physicians giving service in 1903-4, and about 1,565 in 1904-5. In this number are included some 36 externes or physicians who did work among dispensary patients in 1903-4, and in 1904-5 the number was about 39. The total varies with the number of medical students sent out from the

Eclectic Medical College to do such work.

There were twenty-one training schools for nurses in general hospitals in 1903-4, and twenty-two in 1904-5. The special hospitals, in taking a limited kind of cases, employ young women to be trained attendants for the sick, or such special hospitals affiliate with others which train the same nurses in rotation, so that upon the completion of a number of short courses in different hospitals the pupil may be qualified to take the State examination and become a legally registered nurse. An illustration may be cited of the Laura Franklin Free Hospital for Children, which co-operates with the J. Hood Wright Memorial Hospital, the New York Infant Asylum and the Minturn Hospital (the last for private cases of contagious diseases).

The only hospitals which train male as well as female nurses are the City Hospital, on Blackwell's Island, and Bellevue. The Bellevue Hospital trains all its nurses in its own wards, while the Allied Hospitals are supplied with nurses who come daily from Blackwell's Island. In a few hospitals the nurses are sent out to do district work as part of their training, as in the Lying-In Hospital, St. Mary's Free Hospital for Children, the New York Infirmary for Women and Children, and the Presbyterian, but the extent of this district work is small compared with that done by graduate nurses employed for dispensaries. However, the introduction of district nursing as part of the regular course may be looked upon as a tendency of great value. In no better way could the pupil be taught the social significance of illness and the necessity for co-operation with other preventive and constructive measures to secure the much desired permanent relief.

ANOTHER TRAINING SCHOOL FOR COLORED NURSES.

Under the caption "An Admirable North Carolina Institution," the *New York Medical Journal* of February 2 makes this plea for the Slater Industrial and State Normal School:

It is not easy to estimate the good that has been done by such schools for colored people as those at Tuskegee, Hampton and Winston-Salem. The school last mentioned is officially known as the Slater Industrial and State Normal School. It is in need of funds, and we do not hesitate to say that beneficence could take no better form than that of assisting it to raise a contemplated fund of $24,000. The State (North Carolina) has offered it $12,000 on condition that the school itself raises an equal amount, and we learn that a New York man has undertaken to contribute $6,000. Thus $6,000 more must be subscribed. Contributions may be sent to the treasurer, Mr. W. A. Blair, in care of the People's National Bank, Winston-Salem, N. C. This school should commend itself particularly to medical men by the fact that it is to be the means of training colored girls as nurses—not, of course, to compete with the highly trained graduates of the great hospitals, but to serve in families of moderate means. As attendants in the sick room colored women are very acceptable to the people of the South, being almost invariably gentle and faithful. They do, however, need systematic instruction to bring out their full capabilities.

SAN FRANCISCO PRICES.

The San Francisco County Nurses' Association brought up the question of the nurses' schedule of rates at the February meeting, and voted to continue the regular schedule, with the exception of that of hourly nursing, which will be from $1.50 to $2 a visit for an hour or less. The following is the regular schedule: For ordinary cases, including board, $25 per week, or $4 per day; for ordinary contagious cases, $25 to $30 per week, or $4 to $5 per day; for quarantine cases, $5 to $10 per day; for night duty cases, $25 to $30 per week; for adult male cases, $4 to $5 per day; for assisting at operations $5 to $10; for hourly nursing, visit of one hour or less, $1.50 to $2.—*Nurses' Journal of the Pacific Coast.*

CORRESPONDENCE.

ANTI-REGISTRATION IN PENNSYLVANIA.

Editor of the Gazette:

In answer to the article on page 250 of the April Gazette, entitled "The Question of State Law for the Registration of Nurses," I hold that registration instead of being harmful is very helpful for the trained nurse, as it makes her ambitious to win this higher title for which purpose she will take a higher course of studies and thereby become more efficient in her profession. It is absolutely absurd for anyone to insinuate that the nurse, because she is more efficient, would for that reason deliberately disobey a doctor's orders.

As to price—a common laborer will earn his three dollars per day, working only eight hours, while a nurse earns her twenty-five dollars per week working much harder and very often twenty-four hours out of the twenty-four. The laborer can work regularly twelve months in the year, while a nurse's work is so exhausting that the average nurse finds it impossible to work more than eight months out of the twelve.

It is not necessary for the poor to employ trained nurses, as they may have the services of the district nurses gratis at any time.

If a doctor meets a nurse who does not faithfully carry out his orders to the best of her ability, he must not judge that all members of her profession are the same; there are deficient individuals in all trades.

Margaret Lee, R.N.

118 Mariner St., Buffalo, N. Y.

Try to realize the fact that the skin is always a happy hunting ground for microbes, and unless you are *very* thorough in your proceedings against them, they only wait for the surgeon to make his incision for them to creep inside the wound, and then your hope of its healing up by first intention vanishes away, and the patient is condemned to weeks of bed with a suppurating wound, the nurse to a daily dressing, and the hospital to the expense of maintaining the patient, and the cost of the dressing for a much extended period.—*Brit. Jour. of Nursing.*

EXAMINATION QUESTIONS

In the First Examination before the Nurses' Examining Board of the District of Columbia.

Washington, D. C., May 1, 1907.

WRITTEN STATEMENT OF CARE OF FEVER PATIENTS.

1. Describe in full the daily routine care of a fever patient.
2. What means would you use to keep the room of a fever case in proper hygienic condition?
3. How often would you feed a patient with high fever, and of what should the diet consist?
4. What means would you use to reduce the temperature of a fever patient?
5. In typhoid cases what symptom would indicate the approach of hemorrhage from the bowels? What precaution would you use? Should hemorrhage actually occur what would be your treatment while awaiting the arrival of the doctor?

WRITTEN STATEMENT OF CARE OF PATIENT BEFORE AND AFTER OPERATION.

1. What is meant by surgical cleanliness?
2. How would you prepare a patient for a major operation?
3. What precaution should be observed in the case of a patient recovering from anesthesia?
4. Give symptoms of threatened collapse; what would you do for patient suffering with same?
5. Mention some of the methods for controlling hemorrhage.

OBSTETRICS.

1. Give duties of nurse in second stage of labor and treatment of postpartum hemorrhage in absence of physician.
2. Describe the lochia—its source and duration.
3. What precaution in regard to mother and child should be taken before and after feeding?
4. What should a nurse do in case of hemorrhage from the cord?
5. Describe the care of a new born child—the eyes, mouth and bath.

EMERGENCIES.

1. What would you do in case of Carbolic Acid poisoning?
2. How would you treat a case of asphyxiation?
3. In case of Opium poisoning what treatment should be given?
4. What treatment should be given in case of sunstroke?
5. How would you treat burns produced by fire?

ORAL.

a. Knowledge of bedmaking, with and without patient.

b. Poultices, mustard pastes, fomentations.

c. Use of clinical thermometer, and taking vital signs.

d. Giving of enemata, douches, catheterization.

e. Care of bed sores.

f. Giving hypodermics, cleansing bath.

THE GRADUATE NURSES' ASSOCIATION OF CONNECTICUT.

The fourth annual meeting of The Graduate Nurses' Association of Connecticut was held at the Assembly Hall of the Hartford Hospital, on Wednesday, May 1, 1907.

The meeting was opened with prayer by Rev. Mr. Faucon.

Dr. Winfield Smith, Superintendent of the Hospital, welcomed the Association. Dr. Smith's address of welcome was a unique one in that it was the first time the Association has been welcomed by a man who understood the purport of the Association and the significance of Registered Nurses. His address was the best statement of the value of state registration that has been made before our Association.

The president's address reviewed the work of the year and dealt with the pending measures in the legislature which are opposed to our law for registration. The purport of the measures and the causes producing them were clearly explained and the Association's co-operation as a body and as individuals enlisted for their defeat.

A vote was taken to appoint ten councillors from the Association for the various sections of the state, to keep all nurses informed and cognizant of matters of import to the profession.

The afternoon session was occupied by papers on the subject of "The Responsibility of the 'R. N.,'" by Miss Jeanie M. Campbell, of Bridgeport; Miss Martha J. Wilkinson, of Hartford; and Miss Mary Grace Hills, of New Haven.

Two selections of vocal music were furnished by Miss Alice H. MacCormac and pupil nurses.

Officers for the ensuing year were elected. Their names are in the GAZETTE Directory, page xxxii.

The next meeting will be held in Waterbury in September.

The next annual meeting will be held in Bridgeport in June, 1908.

E. BALDWIN LOCKWOOD, *Secretary.*

BE ready.—ROOSEVELT.

TECHNICALITIES.

ITEMS of value to nurses in their work will be welcome to this column.

WET DRESSINGS.—When wet dressings are needed on hairy areas it should not be forgotten that they predispose the hair follicles to infection. —*Amer. Jour. Surgery.*

ICE PACK.—Place the stripped patient on a mackintosh sheet. Fold an ordinary sheet in four layers, and fill in between layers with powdered ice. Wrap around body, leaving limbs free and axillæ accessible for the thermometer.—*The Clinical Review.*

PAINLESS APPLICATION OF CORROSIVE SUBLIMATE.—L. F. Appleman (*American Medicine*) states that when solutions of bichloride of mercury are made with normal salt solution instead of water, they do not cause the slightest pain when applied to the mucous membranes.—*Denver Medical Times.*

TO PREVENT NAUSEA FOLLOWING ANESTHESIA. —Dr. W. T. Wootton (*Journal of American Medical Association*) easily prevents postanesthetic nausea in operative cases by giving oxygen inhalations, beginning immediately on suspension of the anesthetic—ether or chloroform— and continuing until consciousness is regained, or even longer. The oxygen is passed through a wash bottle and is regulated and administered by the anesthetizer.

TO STRAIGHTEN THE SHOULDERS.—A splendid exercise for straightening the shoulders and enlarging the bust is to stand erect, rise slowly on the tip toes, take a long deep breath, hold the arms at full length and stretch them back as far as possible. Begin by practicing the exercise six times each morning on arising and finally increase the number of times to twenty.—L. G. DOANE, in *Therapeutic Record.*

TO REMOVE TARTAR FROM THE TEETH.—The accumulation of tartar on the teeth makes them unsightly and is often the cause of a bad breath. If the teeth are properly brushed each day tartar will not have the chance to accumulate, but if it has already been allowed to do so it can be removed by a very simple treatment. Moisten the toothbrush in warm water and dip it into magnesia; rub on the teeth and, after three applications, the tartar will have entirely disappeared.— L. G. DOANE, *in Therapeutic Record.*

CHLOROFORM.—The following precautions are recommended in reference to this article:

Buy chloroform only in one-quarter pound bottles. In purchasing in larger amounts immediately transfer to small bottles. It should be perfectly dry.

Keep the bottle corked tightly.

Do not expose it to a bright light.

Keep in a cool place.

A surgeon's request for chloroform should never be filled from a partly empty package. The purest chloroform ever made would not keep indefinitely.—*Medical Summary.*

Fresh Air Treatment in Hospital Wards.—Thompson, referring to the hospitals situated in a location like New York, where the climate is so changeable, submits the following rules: Ward heating and ward ventilation should be capable of independent adjustment at all times. The night temperature of the ward should be at least 5° F. below the noon day temperature, which latter should not be above 68° F. or 70° F. The ward windows should be furnished with transoms and one or two movable separate panes, to admit of easy regulation and ventilation. The ward should be in communication with balconies or porches, on to which patients' beds can be moved through windows of the casement type. Such balconies need not interfere with the adequate lighting and ventilating of the ward, as proved at the Bellevue and other hospitals in which they have been used. The building of very large wards should be discouraged and a greater number of small adjacent rooms should be provided to admit of the scientific adjustment of the ventilation and temperature to suit the requirements of different patients. The windows of the ward, even on the coldest day, should be opened at least twice daily, in the early morning and late afternoon, for a few minutes to thoroughly change all the air in the room. During this time any patient may be covered temporarily with extra bed clothing if there be fear of exposure from draft. The same procedure should be carried out immediately after visiting hours. Day rooms should be provided for convalescents, where they can obtain change of air and scene, and leave more fresh air for the bedridden patients in the wards. House staff and nurses should not only be taught ventilation theoretically, but made to put it into practice in the wards, and should be made to regard fresh air as of equal importance with fresh food.—*N. Y. Med. Jour.*

To Prevent Struggling During Narcosis.—One of the most disagreeable features associated with nearly every operation is the struggling of the patient during the early stages of anæsthesia. To obviate this a method of procedure is advocated by the eminent German surgeon, Gersuny. This consists of having the arms and forearms enclosed in long cuffs of celluloid, which project several inches beyond the tips of the fingers and make it impossible for the patient to grasp the hands of the anæsthetist or the inhaler; the cuffs are kept from slipping off by a tape fastened to the upper end of each and passed over the patient's shoulders. Attempts to sit up are easily frustrated by having a nurse place her hands under the patient's heels and keep them continually elevated one or two inches above the surface. As long as the heels are raised it is impossible for any one to sit up; it requires no muscular strength to effect this The simplicity of Gersuny's plan to prevent struggling will commend itself to operating surgeons as worthy of being followed.—*Medical Age.*

Syringing the Ear.—Syringing the ear is not so easy to perform as it appears. Indeed, it generally takes a little time before the nurse acquires the "knack" of syringing efficiently. The best instrument to use is a glass syringe of about six ounces capacity and having an asbestos plunger. This form of syringe can easily be kept clean by boiling.

The fluid for syringing should be comfortably warm, *never cold.* The patient should be seated with the affected ear towards the light and a towel and some waterproof material tucked in round the neck. He should himself hold a kidney bowl under the ear firmly against the neck. It is as well to direct him to slightly incline the head to that side.

The tip of the ear is taken between the left thumb and forefinger and gently pulled upwards and backwards. The nozzle of the syringe is then introduced into the opening of the meatus and the fluid gently ejected *along the roof, side, or floor of the passage,* not straight inwards.

Anything that comes away should always be shown to the surgeon. After syringing, the ear should be gently dried.

The use of instillations or ear drops is carried out as follows: The patient is directed to lie down on the sound side, and the ear is filled with the drops to be applied; this can be done by means of a lipped bottle or an ordinary medicine dropper The patient retains the drops for the period ordered, and they are then sopped out with wool or the ear syringed (if ordered). All drops, *with one exception,* should be warmed before use. The one exception is peroxide of hydrogen, which, owing to its chemical instability, requires to be used cold.—Dr. Macleod Yearsley, in *Brit. Jour. Nursing.*

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THE ART OF DRINKING.

By Robert Bell, M.D., etc.

London, Eng.

Drinking is so closely associated with health and is not unfrequently a symptom of disease that no apology is necessary for bringing the subject prominently forward for careful consideration. To enable one to gain proficiency in the art of drinking, a number of physiological facts will require to be passed in review. This will become apparent when we are reminded that more than two-thirds of the weight of the human frame is made up of water, and that life is dependent upon those vital changes which are constantly succeeding each other in the various fluids of the body.

The relative amount of water found in the various tissues and secretions varies considerably; the teeth containing only 10 per cent., whereas the saliva contains 99.5 per cent. of water. These are the two extremes. In bone there is 13 per cent. of water, in muscle 75 per cent, brain nearly 79 per cent., blood 79.5 per cent., bile 88 per cent., milk 88.7 per cent., urine 93.6 per cent., and so on.

With this information it will not be difficult to estimate the importance of water as a constituent of the animal frame. We have only to drive off the water from a tissue such as muscle or tendon to find all its characteristics, appearance and properties destroyed. Seeing then the great preponderance of water over solids in the animal organism, and the important rôle they play, we cease to wonder that hunger can be more easily tolerated than thirst, and life sustained for a considerable period if water alone is supplied in sufficient quantity.

It has been estimated that an ordinary sized adult will take into his body daily about 4½ pounds of water and that about ½ pound will be formed by chemical action. On the other hand, of the total amount, there is excreted from the skin 30 per cent., lungs 20 per cent., bowel 4 per cent., kidneys 46 per cent. But, of course, these proportions will vary in different circumstances. For example, in hot weather the skin will act more freely and the kidneys will be less active than would be the case were the temperature lower, when, of course, the conditions will be reversed. And as we know thirst is invariably commensurate with the activity of the skin and kidneys, though sometimes, as in fever, there is excessive thirst, though the functional activity of these important organs is then in almost complete abeyance. Yet parched nature calls for cold water to repair the loss of fluid which is being carried off by radiation, for in the circumstances it does not pass by the ordinary channels, these, viz., the sweat glands, the kidneys and the mucous membrane of the lungs, being placed completely hors de combat by the poisonous materials, or toxins, as they are termed, circulating in the blood, and to whose presence there the high temperature of fever is due. Fever then can hardly be described as a disease, but rather as a symptom or outcome of one form or other of blood poisoning, these varying according to the specific poison present. Various though the causes of fever may be, there is one constant effect produced, which is an increase of nitrogenous products such as uric acid or urea, and it is to retention of the latter in the blood that coma so frequently is an accompaniment of the acute febrile condition. The art of drinking, then, in such circumstances must be looked upon as of the highest importance, as not only the organs above mentioned are incapacitated, but bile, gastric juice, saliva, etc., cease to be secreted. If then we can administer fluids in such a manner as to dilute the poison and reduce the temperature, we will thereby succeed in promoting a condition of the blood less prejudicial to the functional activity of those organs of secretion upon which the elimination of impurities from the blood entirely depends. And once this cleansing process has begun, convalescence will speedily be established and will rapidly progress if the skin and kidneys are flushed by a plentiful supply of fluid and the lungs supplied by an abundance of fresh air.

Now, if the art of drinking is so important in the above circumstances, it is equally if not more important in our ordinary daily life, as if properly cultivated it may and will prove the means of assisting very materially in the preservation of health. The more we encourage the action of the skin and the lungs not only do we promote a free escape of heat but also of poisonous excretory matter. This, of course, can only be accomplished by judicious drinking, which will not only influence the secretion of the skin and lungs—which are the principal media for regulating the temperature of the body as well as being purifiers of the blood—but of the kidneys also, upon whose healthy activity so much depends.

In dealing with the art of drinking we must bear in mind there is also a vice of drinking, with which we have nothing to do at present. When then is the time to drink? I say anytime except during meals. The food should never be washed down by any other fluid than the saliva. Were this rule more strictly observed we would hear much less of dyspepsia, and fewer people would be overburdened with an undue deposit of fat. When the meal is finished, the food having been thoroughly incorporated with the salivary and gastric secretions, you may take what fluid you feel inclined for, and there is no limit as to quantity. My conviction is we don't drink half enough between meals. If we keep the skin and kidneys actively employed by imbibing freely of non-alcoholic beverages—and it is impossible to overtax them if we confine our drink to what nature has provided for us in the way of fluid—we will be rewarded by enjoying all the comforts of a pure and therefore healthy blood stream, for the simple reason that every organ of the body will benefit thereby. The art of drinking may be cultivated with great advantage for two most important purposes at least. The first, as will have been inferred from the above remarks, to promote health, and the second to assist in the restoration of health.

We should never overlook the fact that there is constantly being accumulated in the blood not only waste matter resulting from chemical changes taking place in the upkeep of vital energy, but also toxins absorbed from the intestine, these being present in larger quantity if constipation is coexistent and less so as the sanitary condition of the blood approaches perfection. Now the blood can only be freed from this noxious material by means of the lungs, skin and kidneys, so it is not difficult to see that the more actively employed these important organs are kept the healthier the various organs of the body and the individual as a whole will be maintained. When therefore active exercise is withheld, as in sedentary occupations, it is not difficult to conceive there will be a tendency towards an accumulation of effete matter within the vital fluid, and this will be accentuated if the atmosphere of the apartment which the person occupies becomes vitiated in consequence of deficient ventilation. Lethargy, loss of appetite and dyspepsia will, as a rule, supervene, and the health as a whole will sooner or later suffer, and if this unhygienic mode of life is persisted in, changes in the blood will be certain to follow, which in all probability will culminate in gout or possibly organic mischief of graver import. Now, such a catastrophe would be much less likely to ensue were the simple precaution of drinking from a pint to a pint and a half of water during the forenoon and also during the afternoon resorted to. It will also prove a wise proceeding if men of sedentary habits especially, would during the process of dressing, slowly sip at least a pint of hot water. This would stimulate the circulation in the lungs, skin and kidneys and prove of immense service in promoting the secreting power of these important organs, and at the same time prepare the stomach for the reception of food. While this advice is specially directed to those who are deprived of necessary exercise, it will also prove of service to those who are more fortunately situated. Those organs, let me add, can never be overworked if they are supplied liberally with that fluid which nature has provided so liberally for our use.

On the other hand, when an abundance of exercise enters into the daily life, whereby the circulation in the skin and mucous membrane of the lungs is augmented—it may be to the full expansion of the network of bloodvessels which ramify in every direction over these surfaces—the loss of fluid from the blood will create a demand for liquids which it will be impossible to resist. Thus by flushing the blood by means of repeated supplies of water in one form or another, while the secreting surfaces are in active operation, the vital energy of every organ of the body is benefited, as the more freely these secreting membranes act the greater amount of waste material will be eliminated from the vital fluid. If, however, the temperature should be sufficiently low as to interfere to some extent with the activity of the sweat glands, the benefit of exercise will by no means be nullified, as in these circumstances the functional activity of the kidneys will receive the stimulus diverted from the skin while the lungs will continue to act unimpeded.

That the art of drinking has not received the attention it deserves goes without saying, seeing that not only health may be preserved on the one hand and disease alleviated on the other by careful study of the subject, and this fact I fear has been sadly overlooked. Of course, it is not obligatory to confine our beverage to water as it is provided by nature. It is essential, however, that whatever be the source of supply this must be uncontaminated. I need hardly state that there is even now, though to nothing like the extent what formerly was the case, an enormous amount of disease contracted from drinking impure water. The disappearance of cholera and the diminution of typhoid fever and diphtheria are entirely due to an improved water supply.

For the man whose habits are sedentary the following routine might with advantage be followed: 1st, Two tumblerfuls of hot water before breakfast, which will, as I have mentioned, not only have the effect of preparing the stomach for breakfast, but will tend to act as a slight laxative and also promote a healthy action of the excretory organs before mentioned. 2d, At breakfast a large cupful, or two if desired, of tea which has not been infused for more than three minutes. This will prove quite sufficient to abstract all the aromatic constituents of the leaves, which are comparatively innocuous, while the undesirable tannin and gummy extracts will be left behind, and it is to the latter the injurious effects of tea drinking are chiefly due. I would repeat, however, that this portion of the meal should be left until all the solid portion has been disposed of. 3d, During the forenoon and afternoon either plain or aerated water may be the beverage and to the amount previously indicated. 4th, After lunch either a tumblerful of water, a bottle of ginger beer, ginger ale, or lemonade, soda and milk, or half a pint of cider. 5th, The same after dinner, and 6th, Before retiring a tumblerful of cold or aerated water or milk and soda. Of course there will be other fluids partaken of during the course of the day. These will consist of the watery constituents of the food, of which more particular mention may be made of milk, fruit and vegetables, all of which should enter to a large extent into the dietary.

Now, it stands to reason, if we are to obtain the full benefit which the lungs, the sweat glands and the kidneys are able to confer, it will be essential to adopt measures to keep them in good working order. The lungs, for example, will demand an unlimited supply of fresh air. The skin must be kept thoroughly cleansed by a bath every day, followed by a smart rub down with a rough towel. Great advantage will also be reaped by a visit to a Turkish bath two or three times a week, or, what is not a bad substitute, a cabinet bath may be used in one's bedroom three or four times a week. This should be followed by a tepid bath, or a sponge down with tepid water, after which great comfort will be experienced, to be succeeded by refreshing sleep. If there be a tendency to gout or rheumatism these hot air baths will be of immense service.

So much then for the art of drinking as a preservative of health. Let us now consider for a little how this may be taken advantage of as a restorative to health. As a rule we will find that a great proportion of ill-health has its origin in some disorder of the digestive organs, and ample experience has taught me that dyspepsia is not only one of the commonest complaints that comes under the notice of the physician, but also is the origin of a host of secondary maladies, a great number of these being due to the presence of uric acid in the blood. Errors in diet and the over-indulgence in stimulants have much to answer for in these circumstances. It is not, however, my intention to deal with dietetics at present, but as uric acid poisoning is invariably due to the ignoring of nature's demands in this respect, and as gout and rheumatism are the direct results, it would be hardly fair if I did not call attention to the fact.

Let me then point out in what manner the art of drinking may prove of service in certain disturbances of the stomach, especially that condition which is designated catarrh. When this is present we know the mucous membrane is in a state of subacute congestion. The invariable result of this is a deficient secretion of gastric juice and an excessive secretion of mucus. The consequence is that when food enters the stomach it does not digest as rapidly as it should do. Now, when this is the case fermentation is certain to follow, resulting in the generation of acid and gas. The former will make its presence known by acid eructations and the latter by distension of the organ. Now, when this gas, or flatulence, as it is termed, distends the stomach the distress produced does not terminate there, but extends to the heart and lungs, whose movements are frequently considerably impeded, giving rise to palpitation and breathlessness. It is then imperative that the diet be modified, and relief will be afforded by sipping a tumblerful of hot—very hot—water about half an hour before each meal.

It would hardly be within the scope of this article to enter in detail upon a description of the various watering places that are the resort of invalids suffering from various complaints. It will, however, be found that at every one of these the physician consulted will give quite as much attention to the diet of the patient as to the water he is to drink. But drinking of the waters is a most important part of the treatment, and this is all directed to the flushing of the various excretory organs.

That the art of drinking in these circumstances is most valuable will, I think, appeal to every one, but when we come to realize that the necessity of visiting such resorts might have been obviated had we cultivated it as a preventive measure, we are bound to admit the paramount importance of acquiring as great skill in utilizing this art as it is possible to attain.

Permit me to add that while one cannot but admit that the art of drinking, when thoroughly mastered, will prove a valuable factor in dealing with those maladies which are the outcome of a vitiated blood stream—and there are few diseases which are not dependent to a greater or lesser extent to this cause—it must be conceded that the treatment of disease is a much more complicated process than its prevention. It therefore will be imperative, when disease is an established fact, that the patient immediately places him or herself under the care of a competent medical adviser and on no account to rely upon his own resources.

15 Half Moon St., London W.

THE CARE AND EDUCATION OF MENTALLY DEFECTIVE CHILDREN.

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The cry of our mentally deficient children comes to us in an appeal for protection twofold in character. First for themselves, lest through neglect they lapse into absolute idiocy or, misunderstood they become the innocent perpetrators of crime. Second for society, protection from the reckless deeds of an irresponsible element, as well as from a permeation leading to assimilation producing inevitable deterioration.

What shall we do with them is fast becoming a pressing question.

While we may not, in this age, emulate the example of ancient peoples and to preserve the integrity of the race expose our weaklings to perish, let us hope that a wise legislation will by means of separation, segregation and asexualization eventually solve the problem.

A temporary separation of all backward children would give an opportunity for such careful and prolonged observation by experts—medical and educational—as would insure successful diagnosing and testing. This followed by the permanent sequestration and asexualization of those thus adjudged mentally defective, would not only greatly simplify the matter of training and care in the present, but would tend largely to diminish numbers in the future. Furthermore, such legal recognition of the peril imminent to society, though such connection could not fail to gradually so mould public opinion as to discourage the inter-marriage of persons of neurotic temperament.

Reasons for such legislation are to be found in the rapid increase of imbecility evidenced in the ever-increasing demand for asylums and training schools.

The necessity for juvenile courts betrays also a distinctly abnormal note in child life; while the training schools begin to find themselves more and more burdened with that criminal type—moral imbecility—heretofore but rarely encountered.

Moreover, investigations begin to mount up into reliable statistics, showing that by far the largest percentage of this evil is due to a direct transmission of imbecility, or of combined neurosis; so that thoughtful minds cannot fail to see that heroic measures are needed to stem this tide of fateful heredity which threatens the worst form of race suicide. Provision for the proper handling and treatment of the numbers which now prey upon society and paralyze the energies of the homes should be made on distinct lines.

In order to effectually minister to the necessities of the three distinct classes of defect there should be asylums for the helpless idiot, homes of detention—custodial buildings, with classrooms and trade shops—for the moral imbecile (the criminal type) and for the docile trainable children, schools adapted to the three grades of imbecility, training in the industrial, manual and even the intellectual arts, as music, drawing and color work has proven important and highly valued aids in the awakening and development of dormant faculties. There is no reason why these several departments should not be under one management; yet they should be widely separated so that the public may understand the wide distinction between them and parents and guardians become more ready to accept the necessary and proper assignment for their wards.

Again, while there may be a certain dependence and interchange between the sections affording a mutual advantage, they should not be allowed to impinge or trespass the one upon the other. Thus the asylum may draw from the school trained assistants in the care of its helpless and these, together with those of the custodial class, may be able to share in the various entertainments and athletic sports of the school. At the same time the school, while finding a provision and a future for its trained pupils, is not handicapped or disorganized as it must be by the presence of either the helpless or the incorrigible.

The moral imbecile is, one might say, the directly opposite type to the idiot, for he is as devoid of moral sense as is the idiot of mental, and more helpless; for the idiot incapable of self-help needs only a nurse, while the moral imbecile incapable of self-restraint needs a perpetual guardian.

In the lower grades—but little removed from the mere animal—the instincts exaggerated tend to brutishness; in the higher he is found not infrequently endowed with special mental gifts, which may be developed along useful lines—under perpetual direction—an attractive personality rendering him all the more dangerous. For cunning, sly and deceitful, all his powers are perverted to evil purposes, often for a long time skillfully concealed.

The public mind fails to comprehend the moral imbecile, because the term imbecile is to many a synonym for idiot, whereas in this type the defect of intellect may be comparatively slight, while the moral sense is greatly impaired or altogether absent, making him an irresponsible, wholly innocent of the crime he perpetrates. We quarantine fevers, forbid the presence of the leper, and yet allow this amoral one to run at large, unrestrained, causing destruction and perpetrating evil which lives through generations. But we owe him much. For this innocent victim of accident, or of the sins of others, should be prepared homes of detention—I use the term advisedly—with class and music rooms, trade shops and gymnasium and plenty of moving space in the open. Not a penitentiary—for remember he is not a criminal, only an unfortunate—but a home where every advantage possible should compensate for the loss of that freedom, which would imperil alike society and himself. Thus by a wise recognition, sorting and placing may the greatest happiness and greatest benefit be assured to the greatest number.

The school methods are based upon this same plan of each going to his own place. The terms Low, Middle and Hig-Grade indicate certain distinct and unchangeable forms of mental defect and the possibilities and limitations of each.

Children of Low Grade are incapable of comprehending abstract signs and can never learn to read and write, but by the recital of stories, the presenting of object lessons, and the very simplest of nature studies, the imagination is quickened, and in kindergarten, manual and calisthenic exercises the powers of observation, limitation and reproduction are stimulated and encouraged; while in association with his fellows, under constant direction, the egoistic emotions are constantly subordinated to the altruistic.

As the child grows some simple household occupation is added to his daily routine, and in the doing of it he gains a sense of responsibility and selfhood, and gradually, if only as a hewer of wood or drawer of water, he slips into his groove in a community of labor, happy in the companionship of those of his own class, protected from the world and the world from him.

The same principle is followed, only with broader application, to the other grades.

Children of Middle-Grade, while capable of gaining some little knowledge of the "3 Rs," find their chief means of development in drawing and designing and modeling in clay, cardboard and wood, leading up to the various hand crafts, and as carpenters or painters, tailors or seamstresses, may be brought to contribute their quota to the general economy or to lend a hand more intelligently than their weaker brothers to the various industries of house, farm or garden. With greater mental capacity and power of concentration children of High

Grade are capable of advance as far as the intermediate, or even the grammar school grade, as well as attaining proficiency in music, in fine sewing and embroidery, in stenography and typewriting, in printing and bookbinding, and have also proven capable attendants in charge of groups of smaller children.

In kitchen, laundry and sewing-rooms—under direction always—these render efficient service; as in band, orchestra, theatrical entertainments and athletic sports they make contribution in a way no less important to the happiness of community life, in which they grow up respected and self-respecting members. Brought into competition only with their peers there are certain standards which they are compelled to maintain, yet they know nothing of the strenuosity that in the world would push them to the wall and then ridicule them for failure, just as, growing up in an atmosphere of cleanliness, comfort and of certain refinements of living, they know nothing of the struggle for bread.

But one will ask: "Does such training fit them to go out into the life?" No, for a life without the compelling restraining, protecting hand they as a class can never be fitted for. In the homes they are lonely—in the world they become dazed. Community life is their native atmosphere into which they have been awakened, and to which as from a foreign shore one and another returns from his little venture out in the world with the same plaint: "They didn't understand me. Somehow I can't get along." It is this, more than anything else, that attests to the hopelessness of cure which the public does not seem able to grasp, not comprehending that imbecility, unlike insanity, is defect not disease. Indeed, one might as well talk of turning a negro white as of making an imbecile normal; the racial characteristics are quite as distinctive.

The study of these characteristics—the formulation of theories—the reduction of these to a practical basis, defining conditions and clearly demonstrating possibilities, has filled out a century of work in Europe and America.

It has come now to a parting of the ways and new occasions bring new duties. Shall we meet them in the spirit of the pioneers, or shall we through lack of courage to advance or of ability to discern nullify their efforts in behalf of these unfortunates and of society at large?

HOW TO BE HEALTHY AND HAPPY ALTHOUGH A RESIDENT OF THE TROPICS.

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It takes little money and less initiative to move from one country to another. Fools go a long way from home and, unfortunately for themselves and those they visit, are found even in the tropics. But it takes some sense to be able to live healthily and happily in any country, and, particularly, in one to which you are unaccustomed.

In some cases it may be as difficult for a person to adjust himself to his surroundings and adapt himself to the new conditions about him as it would be for a fish to try to live on dry land; such a person has limitations which make it imperative for him never to leave his native heath, but for most men a change from a cold to a warm country is not a formidable adjustment; it may be exceedingly uneventful and advantageous in all respects.

As I have said elsewhere[1] Hawaii does not come under the conventional classification of tropical countries, hence the extreme caution observed by new-comers from temperate zones (according to directions given them by all sorts of advisers in books and by word of mouth) is not required here.

But each individual needs his own judgment and good sense here as well as in Vermont or Minnesota, and until he has become accustomed to the ways of his new home he will need to take some advice and use the experience of others; he will want more patience than he was in the habit of using at home, or his equanimity, if not his health, will often be sorely disturbed.

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[1] Hawaii a tropical but not a torrid country.

By the time our New Yorker has reached San Francisco he has learned something of the necessities of adaptation, at least, as to clothes. But San Francisco is not always even comfortably warm, and further journeying Southwards will teach our traveller that he can safely shed his overcoat for good and all.

He will want the clothes he was used to wearing in October in his native State.

Warmed into unwise enthusiasm by his passage to a balmier sea, he may want to put off all his underwear and doff a white suit as more tropically conventional. All the American officers of the army and navy have their photographs taken in white suits; it seems to be the thing.

Such a change for the new-comer is premature, to say the least. It is probably settled scientifically that white clothes are not the best for white men in the tropics—even the Hawaiian tropics—where heat is not so extreme, but where the actinic or short rays are generally diffused.

This would make the normal colors, orange, black and red, which exclude the injurious short rays, less objectionable here on account of their relation to heat rays.

White clothing is cooler, of course, not only because it is lighter in texture, but because it is white.

At the suggestion of Dr. Sambon[2] a special fabric has been manufactured in such a way as to produce a warp or upper surface of white color and a weft or under surface of black, orange, or red. This gives the wearer the benefit of the action of white towards the heat rays and shuts out the damaging ultra-violet rays.

Since nature has not provided us with an adequate skin for tropical sunlight, but suited us to our ancestral haunts, we must supply the protective colors as best we can when we wander away from home.

The natives of warm countries have a dark skin; in Africa and other equatorial regions with a black skin possessing great absorptive powers the owners are safe from actinic action.

According to Mr. Baly, of London, the brown skin of the native of India will absorb entirely all rays of shorter wavelength than 3,600.

In the early enthusiasm for sunlight it was the custom of residents of warm countries to live in "the open," exposed to the full action of the "benignant" sun; it helped to rid the place of mosquitoes. But it has been found that shade trees are needed about a living in the tropics, and that when shade is eliminated in such regions (the typically tropical) ill health follows.[3] [4]

And even in the tropics, before we knew about the noxious part of sunlight, many residents of long experience had already given up wearing light clothes as being too rapid conductors of heat and cold, particularly cold.

With the adoption of darker and warmer materials colds were less frequent in susceptible persons.

An ordinary suit of tweed or flannel or of heavier khaki is better than duck or linen, at least in Hawaii.

Sleeveless underwear of some light material.

As a rule, the waistcoast or vest has been discarded. Belted trousers with a shirtwaist or the ordinary shirt is comfortable and quite conventional enough for Hawaii.

Of course you will find persons who cannot drop a single garment they have been brought up to wear; such persons often get this far. But like those who stick to all the religious toggery they were born to, such persons do not count.

Silk (stovepipe) hats are not worn in the tropics. I brought mine but never wore it, and, finally, it went into the hands of an amateur theatrical troupe. I saw it several times after on the stage gracing the head of a red-nosed "weary Willie."

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[2] *Journ. Trop. Med.*, Feb. 15, 1907.

[3] *American Medicine*, Oct. 1906, p. 359.

[4] Effects of Tropical Light on White Men, C. E. Woodruff, M.D.

Kidgloves are seldom worn by sensible men, or gloves of any sort. Few women even wear gloves and veils are rarely seen.

Light shoes and sandals, Panama, straw, and native hats are worn; a few ill-placed Derbys rest on soft heads.

Certainly in the tropics soft hats are best for hard-headed men.

While the Hawaiian summers in most locations are not hot, the white resident is perhaps wise in not exposing himself too long to the direct rays of the sun.

It may be that more danger lurks in the sun rays than we have found, and while the matter is under investigation we may well be guarded.

There seems to be a relation between certain obscure fevers and excessive heat or sunlight; perhaps some undiscovered ray will some day account for it.[5]

For the same reason it is proper to avoid hard exercise in the heat of the day.

Damp clothes, damp or cold feet are to be eschewed as elsewhere. And, above all, the experienced resident will take care not to get "heated up" or in a copious perspiration, as it is always difficult to reduce the body temperature without catching cold.

If properly clothed I see no objection to "night air" or any other kind of air furnished by nature in the tropics.

We no longer believe in "miasmas" or mysterious malarial risings. Enough exercise, such as moderate work in the garden, is good, and always beneficial if done in the morning or after sundown.

Frequent and rapid horseback riding is far from good, though an occasional moderate ride may do no harm.

I am not particularly in favor of this form of exercise in the tropics, and have traced considerable temporary ill-health to indulgence in long and frequent horseback riding.

DIET.

The stomach of a resident of the tropics differs little in its demands from that of the inhabitant of northern countries.

It is probably true that in all countries most people eat too much and partake of too great a variety of dishes; and so far as the use of tobacco and stimulants, including tea and coffee, is concerned, we know that they are used to excess everywhere.

Wines, beer, whiskey, gin, and all intoxicants, tobacco, tea and coffee should be left alone in the tropics, if anywhere.

Outside of their legitimate use by the sick they are always harmful, and even in Hawaii give rise to many disorders attributed to the climate. Most of the "tropical livers," so-called, are livers cooked by alcohol.

Strange as it may seem, the tendency in the tropics, where men do not have the external cold for an excuse, is towards excessive use of intoxicating beverages.

A noted English physician has said that most of the disorders which have afflicted English residents of the British colonies in the tropics can be traced to the use of intoxicating drinks.

And in a country where the heart may well be guarded from overwork, and the heat center not to be tempted to variation, we have narcotics like tobacco used to excess by men and boys.

I would be slow to indicate a rigid dietary for the tropics, or to make a specific list of foods to be used by residents, even in a typical tropical country; it savors too much of empiricism. But it is, no doubt, wise to curtail somewhat the eating of meat, hot breads, and an excess of fat.

The same precaution might be used by the man who changes climate as is used by the man who makes a "change of life," say at forty-five years of age. Some things are more required and others less.

Sexual moderation is imporant in the maintenance of normal health.

Fresh vegetables, milk, eggs, fruits in their season are good.

The fruits of Hawaii are particularly wholesome; papya, alligator pear, oranges, grapes, peaches, mangoes, and various other varieties.

Bananas are heavy for some but nutritious;

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[5] Notes on Fevers in the Tropics, E. S. Goodhue, M.D., p. 8.

taro made into *poi* or cooked as a vegetable is wholesome and palatable.

Drinks such as good boiled water, lemonade, tamarind and lime drinks.

Where the liver may perhaps have more work to do than it ought it is wise to avoid certain foods that keep it busy.

Pickles, spiced condiments, sauces, pastry generally might be excluded from one's dietary.

Buttermilk, by all means, as often as possible if kept on ice, otherwise it becomes peptonized and unpalatable.

Enough sleep as elsewhere. If one rises early an afternoon nap is a good thing. But it should be taken in a cool place where the sleeper will not perspire, as colds are often caught that way, Dr. Norman Bridge to the contrary notwithstanding.

It seems to me that ordinary care in all these details of life will ensure the average resident of Hawaii healthy living.

And good health is a large part of happiness.[6]

No doubt even a healthy man may be made sick and unhappy by extrinsic annoyances.

Among these in Hawaii are mosquitoes and servants.

The former, some three varieties (*Culex pipiens* or "night" mosquito, *Stegomyia fasciata* or yellow fever variety, and *Stegomyia scutellaris*) are to be kept out by nets and screens and prevented in most cases by vigilant modern methods.[7] [8]

The servants have to be endured.

With these and some phases of social life the resident must be patient and philosophical.

With ordinary good sense and some experience there is no reason why the Hawaiian arrival, no matter from what part of the globe he may come, should not be as happy and healthy as the docile native who receives him with open arms.

Emulating the simple life of the possessor of the land the Anglo-Saxon, with his hereditary vitality, may live long and be happy.

PURULENT RHINITIS OF CHILDREN.

By Lewis S. Somers, M.D.,

Philadelphia, Pa.

Unlike the presence of pus in the nasal chambers of an adult, which is often indicative of empyema of one or more of the accessory sinuses, such a condition in the child is dependent upon an inflammation of the delicate mucous membrane lining the nose in all its parts, but especially the respiratory portion bears the brunt of the muco-purulent inflammation. As this affection is quite frequent among the lower classes and is the result of infection of the nasal mucosa with the ordinary pus producing organisms in the majority of cases, it also is an unnecessary disease, as its presence in the simple form is entirely dependent upon disregard of ordinary nasal cleanliness, and it can be entirely eliminated by hygienic measures of personal cleanliness.

When a child has a purulent discharge from the nose it may mean one of a number of conditions, and active treatment should not, as a rule, be inaugurated until the underlying cause has been ascertained, which is not difficult in the majority of cases. Whatever the cause, the presence of a purulent discharge from the nasal chambers is self-evident, and in connection with this the upper lip is usually excoriated and nasal respiration is more or less obstructed, both from the accumulation of mucopus in the nose and from the excessive swelling of the inflamed mucous membrane.

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[6] Personal item: I was driven South over a quarter of a century ago, and went to Florida when that was considered the thing to do.

Then on, through the Gulf States, seeking the ideal climate which, *ignis fatuus*-like, kept receding as it impelled.

Texas, Arizona, California at last.

Sanguine, in love with the world and all I saw yet held to earth by a winter cough and more or less lassitude.

After an attack of broncho-pneumonia I came to Hawaii, where I have been, thank God, for twelve years.

I may not have robustness, or give evidence of muscular strength, but I live without being reminded of organs or functions, breathing, eating, sleeping, working, thinking normally.

I rise early, eat sparingly, take some exercise each day, live out of doors largely, take neither tobacco nor stimulants of any sort, romp and laugh with my children, and sleep like an owl in daytime.

My enthusiasms are fresh, buoyancy bubbles up as of yore, I meet opposition like a rubber man, am soft against the fists of a wild Irishman, and will not for yet many years take a seat in the Cynic's Corner.

I do a great deal of work, both professional and literary, being absolutely thorough, methodical and persistent.

It may be the work does not amount to much in a large way; but if it seems to me to be important I am safe.

I think I have bottled the *Ignis fatuus* at last and found the "ideal climate."—E. S. G.

[7] Mosquitoes in Hawaii, Bulletin No. 6, D. L. Van Dine.

[8] Mosquitoes and How to Prevent Them, H. C. Sloggett, M.D.

When the discharge is unilateral, the presence of a foreign body such as a shoe button, or one of a numerous list of objects, can almost always be presupposed, but the nasal chamber should be examined and the offending object removed, when the purulent discharge will rapidly disappear, especially if a simple alkaline wash be used for a few days. More serious than this, and mostly accompanied with a bilateral discharge, are the stigmata of congenital syphilis here, but in connection with the symptoms common to all nasal purulent affections other general evidences of this disease will be found, either at the first examination or after studying the child for a time, and with the proper general treatment irrespective of local medication, although topical measures are of value in relieving discomfort and accelerating the progress of resolution, the nasal condition will usually disappear within a comparatively short time.

Rarely, but of the greatest importance from a hygienic aspect, in a child with a thin, seropurulent discharge and excoriated alæ nasi and upper lip, examination will reveal the nasal mucosa covered in greater part with a membrane, and bacteriological examination will show the presence of the Klebs-Loeffler bacillus, the case being one of true nasal diphtheria, although the child gives no evidence at any time of being ill. When this condition is found, and it is undoubtedly more frequent than commonly supposed, the little patient should be quarantined and antitoxin administered, although the disease may have existed for some time, as it is just these individuals that disseminate the infection and give fatal forms of the disease to others with whom they come in contact.

Dismissing, however, these various underlying causes from this discussion and considering only the simple type of purulent rhinitis, various questions arise aside from the mere presence of the local purulent discharge, as to what effect it has upon the general health: on the eyes and on other portions of the air tract, as the affection in the vast majority of instances acts deleteriously in various ways aside from its purely nasal aspect. Should the disease continue untreated for any lengthy period of time, the general health of the individual will suffer, and this takes place in several ways, the most prominent being from the toxic effects of the large amount of pus constantly being produced in the nasal chambers. In consequence of this toxic absorption anemia of various grades ensues, and the patient will soon show the effect by his pale face and loss of weight, although in a few instances the child may apparently not be influenced as far as this factor is concerned.

Another manner in which the general health is affected is by the impaired respiration through the normal channels of the nose, as obstruction from swelling of the mucous membrane and the presence of retained purulent material is usually a prominent factor, and the child is forced to breathe more or less through the mouth, so that mouth breathing, with all its attendant discomforts and serious consequences which are so well known, follows as a matter of necessity. While at the same time in young children and also to a large extent in older children of the social type in whom this disease is most frequently observed, a considerable portion of the mucopus is constantly being swallowed and of necessity it must impair the action of the stomach, so that digestion is often found to be seriously compromised until the nasal discharge has been suppressed, when within a surprisingly short time it will return to its normal condition.

Most prominent from the objective viewpoint is the effect upon the eyes, as but few individuals with this affection escape the disagreeable and often serious complications affecting these organs. So frequently are the eyes involved that one must almost feel that this phase forms an essential part of the nasal suppuration, as the red, swollen conjunctivæ with its purulent discharge, is constantly present to some degree. The conjunctivitis results from the direct infection from the pus in the nose by way of the lacrimal duct, and but little satisfaction will be obtained by treatment directed purely to the eye condition until the nasal suppuration has been cured, when this complication will be readily amenable to treatment. More serious inflammations of the eye are also not infrequently observed, such as ulcer of the cornea, and often the child presents a most distressing aspect with its excoriated lips, nasal orifices and purulent conjunctivitis; with the cheeks sore from the eye discharge and his face distorted in efforts to see as a result of the photophobia accompanying the affection.

Of the other portions of the respiratory tract and its adnexa, which are more or less affected by the nasal inflammation, the ear is involved in more than half the cases, either by attacks of acute otitis from time to time, or chronic suppurative middle ear disease is a direct result. Both the larnyx and other portions of the pulmonary apparatus suffer to some extent from the dropping of pus into the naso-pharynx and from the forced mouth breathing, but marked symptoms of complicating disorders here are the exception rather than the rule.

With all the harm that this apparently trivial affection produces both in sequela and direct complications the treatment while in some patients covering a considerable length of time, is as a rule, most satisfactory in producing rapid and complete cessation of the nasal suppuration, and with this primary source removed little difficulty is experienced in obtaining control of the various eye and ear changes so frequently present. Cleanliness is more essential than any other factor in the treatment of this affection and in those cases which prove intractable, it is usually neglect of this more than anything else that contributes to keep up the suppuration. By cleanliness in this respect is not only meant that the nasal chambers must be freed from pus as often as may be required, but that the personal cleanliness of the patient must be improved and that he must use clean handkerchiefs, or preferably those made of soft tissue paper, so that they may be destroyed.

For cleansing the nasal chambers irrigations, sprays, or douches may be employed, irrigation being most satisfactory, as a rule, if properly performed by means of a hard rubber tube, such as a eustachian catheter closed at the discal end and perforated with a number of pin holes along the sides for about an inch from the closed tip. To this is attached a rubber tube connected with the reservoir, which should contain about a quart of solution, and washing out the anterior portion of the nostril at first the irrigator is gradually inserted further in the nasal chamber until the return water shows no evidence of mucopus, but returns perfectly clear. The reservoir should not be held more than six inches or a foot at most above the patient's head, and with the head slightly inclined forward and the mouth open no danger of getting the solution into the middle ear can be apprehended, while all portions of the nasal interior are for the time freed of secretion. For this purpose the solution employed should be perfectly bland and unirritating, and the best results are obtained with a two per cent. solution of sodium bicarbonate, or a physiologic salt solution, either as preferred to be used at the body temperature and repeated twice daily in the average case or more frequently if the pus rapidly reforms. In very small children this method of cleansing is not always practicable, and the parents should be instructed to wash out the nose several times daily with the same solution by means of a syringe consisting of a soft rubber bulb and tip of the same material.

Local applications by the physician to the swollen mucous membrane should always be preceded by cleansing the parts as described, so that the medicaments desired can be applied directly to the parts and not to a mass of mucopus, as is so often done, and no benefit derived from the treatment. After cleansing, if the tissues are much swollen, they should be contracted by dropping into the nose a few drops of a one to eight thousand solution of adrenalin and then, when the soft tissues have contracted so as to admit a probe covered with a cotton tuft, a fifty per cent, solution of compound tincture of benzoin in liquid vaseline is applied over all the intranasal tissues. This should be repeated two or three times a week, as demanded by the severity of the case, and after this has been employed for several times its strength should be increased until the pure tincture alone is used; in older children this can be done at the first application, as the slight smarting which ensues lasts but a minute or so, while in very young children a weaker solution is advisable at first, rapidly increasing its strength as desired.

While various other remedies have been used for this purpose, and some are quite efficient, it is unnecessary to mention them here, as it is desired only to outline such treatment as has been satisfactory in my hands, although in a few cases where the benzoin does not rapidly cause a disappearance of the suppuration an ointment of vaseline containing two to ten per cent. ichthyol is quite serviceable if applied to the nasal mucosa every day or two.

Almost as important as the local treatment, and in not a few cases absolutely essential, is the general care of the patient, and this concerns itself not with drugs only, but with an improvement in food, if such be possible, and with fresh air and sunshine. The majority of these cases live in unhygienic surroundings, and unless some attention be given to improvement in this respect, the best results are not always obtainable, while, as a rule, the child should be out in the fresh air all that it possibly can, and a week or two in the country will often be of enormous benefit.

Iron and iodin in assimilable form seem to be especially valuable in building up such children and also markedly improve the condition of their mucous membranes, and for this purpose these drugs are best given in the form of the syrup of the iodid of iron, twenty to thirty drops in water three times daily. Other alteratives and reconstructives may also be used with benefit, such as hydriotic acid, cod liver oil, etc., but the former has seemed preferable to me, and with its aid, as the nasal suppuration disappear, the complications, especially of the eye, will also be found to diminish in intensity and often require no local treatment at all, as their cause is thus removed.

3554 N. Broad Street.

CLIMATIC ADVANTAGES.

By Charles F. Beeson, Ph.G., M.D.,

Roswell, New Mexico,

Formerly House Physician Cincinnati Hospital; Late Surgeon for Colorado Fuel and Iron Co.

There has been much said and written, in recent years, of the advantages and disadvantages of climate and altitude upon the pathologic conditions of the human system, and more especially that of pulmonary tuberculosis.

If a person should spend fourteen years west of the Mississippi River, during which time he visited every State and Territory in this vast extent, and then should he spend seven years in a study of the conditions existing in any one of them, I believe he should be able to speak with some intelligence upon the subject of which I am about to elucidate.

While climate and altitude do not seem to hold the place they once held in the estimation of the medical profession for the treatment of pulmonary affections, yet there are certain points in favor of certain localities over others, which, we must admit, fit them for the habitation of people who, unfortunately, are a little below the average in physical endurance; those whom cold, blustery weather drives indoors, and who must of necessity remain there during several months of the winters at and above the fortieth parallel of north latitude.

These same people are perhaps handicapped in their early years by catarrhal conditions of the upper air-passages, and each winter distresses them with frequent attacks of coryza, bronchitis, influenza, and perhaps pneumonia; invariably a vicious circle is established, and they go on from bad to worse; each winter sees the catarrhal conditions aggravated and the catarrhal conditions in turn making each succeeding winter the more disagreeable and dangerous.

Our Northern cities and towns are full of them; they dread to see the winter coming on, and finally one by one the spring finds them losing weight, languid and easily fatigued; perhaps with a dry, rasping cough and at times a blood-tinged expectoration. These are the persons to whom the medical profession should direct themselves if they have at heart the determination to rid our fair land of that dreadful scourge—pulmonary tuberculosis. Should they at a much later date seek a more congenial climate, it will in all probability be the crowning disappointment of their lives.

These are the people who can and should find a suitable soil upon which they can thrive, and environments in keeping with their lessened physical resistance.

These people were probably not intended to inhabit the region of sudden and extreme climatic changes any more than the Arab was intended for Greenland.

Why should they insist upon living where the very elements of Nature stamp their displeasure by repeatedly congesting the vital organs?

Why should they remain at or above the fortieth parallel of north latitude when in all probability the thirty-fifth, or even the thirtieth, was intended for them?

Why should they tarry until these same catarrhal conditions have opened the portals and prepared the soil for the ever-present germs of disease?

Why should they wait until the greedy fangs of the great white octopus have been implanted in the walls of the delicate air cells made susceptible by insufficient expansion, deficient aeration and repeated congestion?

Why should they bring up their children, who are often of the same constitutional habit, to pass through the same distress year after year, until they finally succumb to the prevailing monster?

It is this stage of their existence about which I wish to appeal to the medical profession that they may advise those of the phthisical habit and the Hippocratic build.

Let one of our profession discover that he has some of the conditions mentioned and see how quickly he looks about for a suitable climate.

I find that there are certain essentials which combine to make up a suitable home for the majority of the persons for whom I am pleading. These I will condense into pure air, moderate altitude, even temperature, congenial natives and natural resources.

I will endeavor in the following plain words to show you, and any others who care to read, that there is a new region within our own free borders which the good Lord has begun and with the help of the pioneer and the United States Government is rapidly completing, an abode, if judiciously handled, for just such of our own human family as I have depicted in the foregoing paragraphs; a beautiful and pleasant living place for these very useful members of society—aye, perhaps for our own dear kin; a land where they may not only live, but thrive and enjoy to the fullest the blessings with which our Master has endowed us.

In order to demonstrate what we have already unconsciously discovered, let me kindly ask you to indulge with me for a moment, and we will encircle the earth with an imaginary band, including that portion of it lying between the thirtieth and the thirty-sixth parallels of north latitude. This hypothetical path will take us through bright and sunny climes, lands that are historically established as our original birthplace, beautiful countries of which you have been made familiar in both song and story. But let us be a little more explicit; let us draw our lines a little bit closer and establish that ever-desirable happy medium at a line in the center of this band, the thirty-third degree of north latitude, and see what we have in its proximity to prove what I wish to demonstrate. We will find Asheville, N. C., Atlanta, Ga., Hot Springs, Ark., Ft. Stanton, U. S. Marine Hospital Sanatorium, and Ft. Bayard, U. S. Army Sanatorium in New Mexico, Phœnix, Ariz., and Los Angeles, Cal. The Santa Catalina Islands in the Pacific, Tókio in Japan, Babylon in the Garden of Eden, Jerusalem in Palestine, Alexandria in Egypt, Gibraltar and the Bermuda Islands.

Thus we see that the world has unconsciously fixed the thirty-third degree of north latitude as its most equable and life-giving line. To those who should but do not live in this zone, it would be impossible for me to depict the advantages along the entire length of this visionary line, but I shall confine myself to a very small portion of its linear dimension, a portion which is new to a majority of our countrymen; in fact, its beauties, its resources and its advantages have just been discovered and are now unfolding to us as the petals of a rose opening to the sun on a summer's day.

I believe you will seldom find a more perfect and happy combination of altitude, air, water, soil and society than that of the Pecos Valley in New Mexico, of which the city of Roswell is the center and the metropolis. And, of course, it is superfluous to say that the thirty-third degree passes through the center of it.

This portion of the valley is a perfectly level, irrigable strip of rich land, extending from old Ft. Sumner, sixty miles north of Roswell, to the southern boundary of New Mexico, an area about two hundred miles in length by twenty in width, and of about the shape and dimensions of the State of Connecticut.

The atmosphere is dry, light and bracing, and as pure as the ocean breezes, as attested to by the deep blue sky and the twinkling stars; sixty miles to the west a range of towering snow-capped mountains can be seen as distinctly as a line of battleships at sea.

The hot, withering winds complained of in some portions of the Southwest are tempered by this snow-capped range, so that they fall into this valley as refreshing as the zephyrs on a May morning.

There is just sufficient snap in the air to quicken the step of the most languid, expanding the lungs and accelerating the pulse, propelling fresh oxygenated blood to the remotest capillaries.

Every tissue in the body feels the impetus to renewed energy. The quiescent lobules beneath the clavicles become expanded and the congested areas relieved. The red blood corpuscles are increased in number, the appetite improves and the whole organism awakens to be born unto a new life.

The altitude being 3,700 feet, it is just a pleasant and happy medium, and insures an early establishment of that systemic equilibrium which is so essential for the proper regulation of the bodily functions, as well as the workings of the nervous system, and unconsciously one enters into the spirit of the free sweep of the Western ways.

The evaporation from the lakes, reservoirs, rivers and artesian wells furnishes just a sufficient degree of moisture to the air to prevent that dry, parched feeling so common in less favored regions of the Southwest; the skin takes kindly to this pleasant humidity, and remains well filled out.

Outdoor life can be complete, twenty-four hours per day, and 365 days per year can and are spent in the open air unconscious of a sense of duty. Hot nights are unknown and tent life is ideal.

Atmospheric changes are seldom and

slow; telegraphic communication with the North brings us news of the fierce blizzards, and usually before the end of twenty-four hours the temperature slowly falls ten or fifteen degrees, and, without any other particular disturbance, remains so for a few days and then slowly rises again.

The sun shines almost incessantly; perspiration evaporates rapidly, cooling the body to a pleasant degree, which must be felt to be appreciated. Sunstroke and heat prostration are unheard of, owing to the rarified air, rapid evaporation and the absence of excessive humidity.

The shades and showers are a very pleasant rendezvous, and are only sought to any great extent in the month of June. The daily showers in July and August make life one grand, sweet song.

Below you will find United States Government statistics for 1900, 1901, 1902 and 1903. Roswell at the north end of the valley at an elevation of 3,750 feet; Carlsbad at the south end, at an elevation of 3,122 feet.

	[*]Temp.	Sunny Days.	Precip. Inches.	Relative Humidity	
				a.m.	p.m.
1900.					
Roswell....	103, 7, 59	289	19.8	55	34
1901.					
Roswell....	101, 3, 59	277	17.84	61	44
1902.					
Roswell ...	107, 10, 59½	306	16.58	56	38
1903[†].					
Roswell....	97, 7, 60	310	7[‡]		

Water is bountiful and pure, gushing from hundreds of artesian wells, each flowing from 500 to 2,000 gallons per minute, and scattered over an area of 600 square miles.

A few miles to the north and south of Roswell two small rivers of pure sparkling water pour forth from the bowels of the earth, flowing onward for thirty miles, scattering life and happiness over some of the finest alfalfa fields in the world.

The United States Government has now finished the Hondo Reservoir, twelve miles west of Roswell; also a dam at Lakewood and Lake Avalon at Carlsbad, eighty miles south of Roswell. The Government is also preparing to build a much larger reservoir at Lake Urton, sixty miles north of Roswell. The natural lay of the land is such that it is impossible for any one of these reservoirs to give way or ever harm a soul. With these sources of water supply there will be furnished thirty inches of water per annum over an area of about 6,000 square miles, or a country a little less than the size of Massachusetts, and as fine land as one could wish, and of which twenty acres will make an independent living.

Food-stuffs are plentiful; fruits and vegetables grow luxuriantly. The markets are flooded with meat, eggs and milk.

Irrigable land pays 12 per cent. interest on a basis of 50 to 500 dollars per acre. Cattle, hogs and alfalfa, honey, apples and cantaloupes are the prize products of this beautiful valley.

Roswell is a city of 8,000 white, bright, progressive people; strong, intelligent and healthy. Sanitary laws are rigidly enforced; sewerage system is very good, and with an annual rainy season the city is kept as clean as a new pin. The inhabitants of Roswell, and of the valley in general, are happily supplied by nearly every State in the Union. Mexicans are comparatively scarce, likewise other foreign elements.

The diseases peculiar to this zone are seldom found in this region. Malaria, hookworm disease and breakbone fever as native diseases are unknown.

This valley is now in an embryonic state, and is offering inducements unprecedented for those of the cold, blustery regions in the North, who can and should live in an equable, sunny, stormless clime. By coming to this valley they will find it neither too hot nor too cold, too new nor too old. Just a happy medium which cannot be equalled by any land pierced by the thirty-third degree of north latitude.

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[*] Temperature—Highest, Lowest and Average.
[†] Estimated, Government statistics wanting.
[‡] Dryest year in 20.

INDIVIDUALIZING DIET.

By F. J. Walter, M.D.

Kramer, Ind.

Every patient presenting symptoms as different as hands at cards it becomes us as physicians to avoid stereotyped methods in the selection of diet, unless our method is that of individualizing each case. The sooner we doctors come to any sort of an agreement in this respect the more certain we will be of our prognosis, and the mere fact that we agree will place dietetics where it has never been. It is common practice to find patients who have been advised regarding their diet by many different physicians until every article of food has been eliminated, or perhaps by careless ones (because of no previous results) they have been told "to eat everything" (with as good results). It is coming to be recognized that back of all diet there must be first and primarily detailed attention to the functions of the nervous system. The patient may have to be shown the way to eliminate *fear* from the body and how to apply the proper mental attitude towards the world. *Fear* causes capillary spasm, inhibits the function of the pneumogastric nerve, stops glandular action in the stomach and intestines, and delays peristalsis. *Fear* is frequently the cause of anemia, constipation, and autointoxication. There is a common nervous condition with "nervous indigestion" that can neither assimilate or digest any sort of food no matter how delicate. The dismissal of fear and the acquired habit of cheerfulness by the followers of Christian Science has done more to cure such "dyspeptics" than all of our best drugs. The normal peristalsis and glandular action of the stomach and bowels is dependent upon regular, unrestricted and rhythmical nervous impulses, and the appreciation by us of the depression of fear and the above suggestions with the ordinary rational treatment of neurasthenia, with an environment of rest and cheerfulness, will often produce the first evidence of a cure. One cannot treat many business men who insist upon going back to a desk immediately after eating and there performing a tremendous amount of work. The living at "the wits' ends" must be moderated and the amount of all stimulating food and drink restricted. Diet does not mean starvation, but it does mean the selection of good and proper food to suit the individual.

To individualize the diet we must exclude foods which in a given case cause fermentation, pain, distress, anorexia, gastric or intestinal indigestion, distention, acidity, constipation or myalgia as nearly as possible, and by persistent inquiry ascertain what is taken at meals, how it is prepared, how well masticated; also the condition of the nervous system. To determine what food is not used in the economy nothing will excel frequent urinary analysis for indican, urates, uric acid, oxalates and amorphous phosphates. The starches and sweets ferment in those of sluggish motor power and with nervous indigestion and cause flatulency. Tomatoes and strawberries are frequently followed by myalgia, and the urine will be found loaded with oxalates. Pork and veal are both a great tax on all parts concerned in digestion and take hours to be assimilated, and unless the motor power is extra fine they should not be given; but few can omit meat for a long period and not show the need of some strengthening food. Most persons can take mutton, chicken and small amounts of bacon (well done), and beef. Many cannot take fried food at all. The nitrogen and nuclein of meat are not always so bad; it is the products of incomplete digestion of the food (indican, oxalates, purins and leukomains) that are so toxic and cause constitutional evidence of autointoxication in many common diseases. Many persons with sluggish bowels are greatly helped by other means, such as abdominal massage and the use of dates, figs, prunes and olive oil daily. Myalgia, not caused by a neuritis of the finer nerve twigs or over-use of the muscles, is but a symptom of autointoxication, the latter a better name than "Muscular Rheumatism." Acid conditions of the intestinal contents many times serve to keep up an existing constipation. Here we must combine with a selected diet some intestinal antiseptics and aperients. Diet alone will not do everything, but all means in therapeutics must be used to bring about normal physiology in every diseased process. Treat the symptoms and the individual. Do not let the patient fall back on any one method, but use baths, drugs, massage, electricity and climate if it seems necessary. The test-meal and findings will always aid in the selection of diet, and every protracted case should have such treatment. Stomach lavage in catarrhal gastritis is our greatest side aid. A guide as to the character of the food will sometimes be the occupation of the patient. It is never the quantity of the food taken, it is: is it assimilated? The starches and sweets are the greatest factors in causing fermentation, and a diet with entire exclusion of these articles is frequently indicated. The most common affliction we are called upon to treat requiring diet restriction is nervous gastritis. The first indication in the treatment of these persons is to control their emotions. If they have faith in us they will co-operate and carry out our treatment; without this your results will be unsatisfactory. Allow no feeling of great responsibility; *eliminate fear;* teach relaxation and cheerfulness; teach them that health comes before the dollar; relieve spasm; start glandular action and stimulate the liver. Keep in mind the importance of flatulency, fermentation and the value of the finding of the products of indigestion in the urine. Such persons should not have rich made dishes of any kind, neither should they have food that takes over two hours to digest. Every case requiring a prescribed diet should have detailed consideration.

TEA IN GOUT.

"I AM a great believer in the value of tea as a preventive of gout, and as aiding in the elimination of uric acid," says Jonathan Hutchinson. "It should be taken weak and quite freshly made. I also always insist on the avoidance of sweet fruits and on the free use of green vegetables."

WHAT'LL YOU DRINK?

By William F. Waugh, M.D.,

Chicago, Ill.

The human race, with remarkable unanimity, has selected for its beverages the plants that contain caffeine. In all parts of the world, out of many thousands of species of vegetable growths, we have unwittingly preferred the caffeine-bearing plants as the basis for our hot drinks. In no case has any other plant been so selected when a caffeine-bearing one was within reach.

Obviously, this has not been a matter of chance, any more than it was based on knowledge of the plant chemistry. There must be some special fitness of such plants for this use, some ever-present need in the human economy that is fulfilled by hot caffeine solutions. In accordance with this principle we find that the Chinese have selected the leaves of the tea plant, the Arabs the berry of the coffee, the Mexican chocolate, the Brazilian Indians (Guarani) guarana, the Paraguayans maté, and the West Africans kola. The only other plant known to contain caffeine is the holly, but this also contains an active emetic principle, which limited its use by the Atlantic coast tribes to medicinal purposes. Can we ascribe such things to mere chance, or coincidence?

But many persons cannot use any one of the caffeine-plant products found in the markets. Coffee causes pruritus ani and other ills; tea destroys the digestion, puts the nerves on edge, and banishes sleep; while chocolate contains a fat—coca butter—that has proved peculiarly difficult of digestion, and this is but partially removed in cocoa. When the cocoa representative denies this, treat a little of his product with ether and show him.

It follows that many persons are reduced to the employment of hot water as their only beverage during meals. Insipid stuff, without any of the sustaining, nutritive and comforting properties of the caffeine drinks! Physiology teaches us that the use of cold drinks with meals is disastrous. Alcoholics are barred. Children will take oatmeal gruel pretty well, if it has a little sweetening and a few raisins, while workmen will greedily imbibe raw oatmeal and cool water if they know what's good; but since salop was extinguished by tea and coffee there has been no real substitute for the latter in common use.

Many years ago the writer had the opportunity of testing maté, in South America, and was then impressed with its suitability for many persons who cannot use either of the ordinary beverages. Some time ago he endeavored to secure a supply, but met with difficulties. Some firms offered to send the maté, at prices varying from fifty cents to two dollars a pound; but there seemed to be a remarkable difference of opinion as to what constituted maté—the general impression favoring clover. A friend in the Argentine sent me a small supply of the real herb, and for a year or more I have been employing it in a variety of cases. The results have been quite satisfactory. No contraindication to its employment has yet been discovered. Many persons who could use none of the other caffeine-bearers have found their needs amply fulfilled in this respect by maté.

Those who have employed this beverage find it refreshing and sustaining, affording as much support and comfort as any of the other caffeine drinks, and in no instance has there been any unpleasant symptom arising from its use. The flavor is more delicate than that of tea, and this induces the assumption that maté is weaker, and a larger quantity is apt to be employed. As a matter of fact maté is about one-half stronger than good China tea, and should be used in smaller quantity. Those unfamiliar with maté should take half as much as for the usual pot of tea.

One result of the use of maté has been the cessation of various nervous and digestive troubles whose source in the teapot had been unsuspected. Instead of resorting to hypnotics for insomnia it is worth while to try the substitution of maté for afternoon or evening teas. Several reports have appeared, giving maté credit for cures of such complaints, but for the present we prefer to look on the benefit as due to the disuse of the beverages previously used, rather than to a direct influence of maté. If caffeine be indicated we prefer to administer it in purity and in definite doses.

To summarize: The overwhelming verdict of humanity favors hot drinks with meals; physiology teaches us that these are to be preferred since cold beverages interfere with digestion; and the caffeine-bearing plants have won the unanimous approval of the world for this purpose. Since many millions of people, invalids, dyspeptics, delicate women and children, cannot use any of the ordinary caffeine beverages, we have a field for the use of maté as extensive as that of either tea or coffee. All that is needed is the magic touch that will open the eyes and the understandings of man to these facts. Dame Fashion must stretch out her magic wand and Commerce will do her part; and one more link will be forged in the chain that binds us to our sister commonwealths in the southern continent.

Ravenswood Ave.

STATUS LYMPHATICUS.

The status lymphaticus is more a constitutional condition than a disease, *per se*, says Vintras in *The Lancet*. The subjects are generally tall, rather sparely built, with fair, clear skins, rather pale, but not the dead white pallor of anæmia. They are of a slow, sedentary habit of life, are mostly highly intelligent, but in a deep, earnest way; they are self-concentrated, shy with strangers and of a retiring disposition, but genial and brilliant when at ease. They are sensitive to climatic influences, feeling cold keenly. The pulse is usually slow, but under the stress of worry may mount to 100 and remain there for days. Sudden death often occurs and is very likely due to some interference with the nerve centres, which causes the dilated walls of the heart to cease contracting. Such people recover very slowly from acute illnesses, which often become chronic. They are, however, less liable than others to neurotic and tuberculous affections. The condition has a tendency to improve with advancing years.

A SCHOOL LUNCHEON.

By A. L. Benedict, A.M., M.D.,

Consultant in Digestive Diseases, City and Riverside Hospitals, Attendant, Mercy Hospital, Buffalo.

During the present school session an interesting experiment has been tried at Public School No. 3, under the direction of the Principal, Mr. G. Frank Mings, in serving penny luncheons to newsboys and other pupils whose work, or that of their parents, renders it difficult to obtain luncheon at home. Between 60 and 70 pupils are served—about 15 per cent. of the whole number. The constituency of this school is largely Italian. The institution of the school lunch, while essentially philanthropic, is scarcely to be considered as a charity, since the one-cent price just about covers the actual expense; and it should also be stated that in few, if any, of the cases are the parents financially unable to give their children reasonable care and sufficient food, but the work of the children or the parents makes it impossible for the former to have a warm noon meal.

A gas stove has been set up in one of the assembly rooms; there is a sink convenient, and an outfit of simple cooking dishes, granite ware bowls, spoons, etc., has been supplied at small expense. One woman does the work, except assistance in serving, dish-washing, etc., rendered by selected children.

The luncheon consists of a roll and bowl of soup, and is appetizing and nutritious. Incidentally, the lesson in table manners and general courtesy has an educational value, though, in justice to the children and to their home training, it should be stated that there has been, from the start, practically no trouble in these regards.

Calculating from the average weight of the rolls and the total amount of nutriment in the soup, which is pretty evenly distributed and which is well stirred, the estimate of the proteid, fat and carbohydrate is as follows:

	Proteid. Grams.	Fat. Grams.	Carbohydrate. Grams.
Roll, 30 grams........	2.64	0.87	16.74
Meat in soup, 27 grams.	4.05	8.10	....
Rice in soup, 27 grams..	2.00	0.11	18.37
	8.69	9.08	35.11

Heat and energy value of 8.69 grams proteid @ 4.9 units per gram........................	35.
Heat and energy value of 9.08 grams fat @ 9.3 units per gram......................... ...	84.
Heat and energy value of 35.11 grams carbohydrate @ 4.1 units per gram....	144.
	263.

Children of the ages represented require about 25-30 grams of proteid and enough fat and carbohydrate as fuel foods to bring the calories up to about 1,250 a day. Thus, the lunch served represents about 1-3 of the proteid ration and about 1-5 of the total ration. This is about what should be given in the middle of the day, when the general habits of life make it advisable to serve the heartiest meal late in the afternoon or early in the evening.

It is interesting to note that, aside from expense of installment and labor, a child can be fed at the rate of not quite 5 cents a day in a perfectly adequate manner. The experiment has been a success in every way, and it is to be hoped that it will be continued and the plan extended to other schools so far as their population renders it advisable. In spite of many unfavorable hygienic factors in this district the health of the children at this school has been the best for the entire city for the present year. This is, undoubtedly, not entirely due to the lunches but in large degree to conscientious and intelligent supervision at school in numerous details.

156 W. Chippewa St.

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THE

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JOHN W. WAINWRIGHT, M.D., Editor

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THE COMMERCIAL VALUE OF WOMEN.

THE present day commercial value of women is a sociological problem, the study of which will doubtless open up a new field for investigation and speculation. By commercial value we have especial reference to that value as housewives and helpmates which all women are supposed to have who assume the care of the household and government of the family, be they married or not. That value as accessory help or personal efforts of the wife in the economical management of the household and family expenses; this to include saving in help, fashioning and making articles of necessity to members of the family. Whether the wife should not play a part of almost equal value to the wage earner, the husband, in the management of all that pertains to the household, the buying of needed articles for the family, in doing the numbers of things at home rather than hiring them done, or purchasing such articles ready made; in short, in getting the most with the least outlay of money and thus helping to secure a competency with which to live comfortably and educate the children; in fact, bring the greatest degree of comfort and success commensurate with the husband's income, is the problem which we wish to discuss. Is the average wife of to-day meeting these requirements, or does she leave these wifely duties to the cook, maid, seamstress, nurse, butler; must the food and clothing be brought to the house ready for use; must the seamstress sew on the buttons, darn the socks; must there be a housekeeper to direct the routine of the household, etc.? Who is it that supports the hairdresser, the manicurist, the delicatessen, and to what end does all this tend? And when the summer comes must my lady away to the mountains, seashore, some fashionable watering place, where she may rest while the wage earner, the husband, remains at home, if a place of habitation without companionship or help can be so called, except for an occasional week end visit to the wife perhaps. And must the husband during this vacation refrain from too frequent visits to the club or places of amusement; must he go home (*sic*) from work and be good while the wife is resting?

"Papa," said a small boy, "what are halcyon days?"

"S-h-h," answered the father, first assuring himself that no one was within hearing, "halcyon days, my son, are the glorious summer days when your dear mamma is far, far away from the wicked, noisy city, enjoying freedom from household cares and breathing the sweet, pure air she so much needs."

Is it true that without this class of women one-half of the physicians of the country would have to seek other occupations?

Is work ever degrading, ever disgraceful? Is not a housewife a helpmate, a motherly woman, the greatest joy on earth? Such a woman is rarely ill, always has a good digestion, a smile of welcome for her husband, family and friends.

And yet women of to-day have a commercial value impossible to calculate. But they are not always those of the home, the wife, mothers. In all of our large cities women as wage earners are bringing about a revolution in economics. They compete with men in many callings, doing the work often better and cheaper than can the man, especially the man of family. What with the typewriter, the telephone, department store, restaurant, and places of like character, great armies of women find employment at good wages, lead good lives and are more than self-supporting, contributing often to the expenses of the family. These women rarely marry. They contrast the comparatively short hours required with that of house servants, as well as the freedom of such a calling. They will tell you that they could never go into the kitchen, could never wash and iron, make and mend, to say nothing of raising a family. These are, it is true, wage earners, and as such have an immense commercial value; but is such a life conducive to the best interests of the State, the family, or to the individual?

LAWS IN DENMARK FOR THE CONTROL OF VENEREAL INFECTION.

In Denmark laws provide for a police control of prostitution, and any person who makes prostitution a means of livelihood comes under police surveillance. An invitation alone, if given in such a manner as shows loss of the sense of shame, is punishable by imprisonment or compulsory labor. Under less obnoxious circumstances, however, a fine only is imposed. The first offence receives a warning from the police authorities.

Prostitution is defined as one having an adult man, a stranger, one not a relative, or a young man under 18, with immoral intentions, in the house where the woman lives, in which case punishment is visited upon the woman. The law also forbids the keeping of a house for immoral purposes, the making of an assignation or advertising. If either man or wife infect the other, and the fact is reported to the police within a year, the guilty party is subject to punishment. Any one of either sex infecting another must not only defray the expense of treatment, but also make monetary amends to the injured party for the loss of time, as well as for the suffering endured. If the party offending is not able to defray the expense he or she can be imprisoned. In like conditions the injured party can and will be treated at public expense.

In order to lessen the danger of infecting an innocent party it is provided that the patient during both treatment and convalescence is to be under complete control, reporting to the physician at appointed times. The physician must instruct the patient concerning the dangers of infection and the probable results to others from such infection, and he must also warn the patient against matrimony until danger from infection ceases.

The government appoints physicians to treat venereal cases reported direct by the patient or another physician, for which he is paid by the government. No fee can be charged the patient.

MUSIC IN THE DINING-ROOM.

Food is to be partaken of with the accompaniment of music, says one; each course to have its particular character of melody. Just how these are to be arranged we are not yet informed, but it is obvious that the soup should not be partaken of to the same tempo as nuts, nor the roast with that which goes with the pastry. Ragtime might be appropriate for the entree, march for the roast, a waltz for the salad and a quickstep for the pastry, and something in the minor while partaking of the cordial, while with the cigars a nocturn or lullaby.

Seriously, music is a pleasurable and should be a helpful adjunct to our dinner, but it is true that thorough mastication should be practiced at all meals. If this is performed in time with the music, as is often witnessed in hotel dining-rooms and restaurants, it is plain that a quickstep would interfere with the perfect mastication of roast beef or steak, and of this we speak most feelingly. Experience in public and too often private dining-rooms convinces us that a continuous movement of the jaws to the accompaniment of a quickstep or ragtime music would exhaust the muscles if engaged in masticating some beefsteaks.

It may be that some of our readers will be able to inform us of the proper music for the several courses: give us a program for common use. As it is, the orchestra leader gives us tunes out of proportion to the requirements for a proper and sedate mastication of our food. Esthetics must be considered, and such a program might work great benefit in the ethics of the public dining-room.

ARTIFICIAL LIFE AGAIN.

PROFESSOR LEDUC, of the University of Nantes, is authority for the following startling experiment resulting in the creation of an artificial plant: First a so-called seed is made with two parts of saccharin and one part of copper sulfate. These are pulverized and mixed thoroughly. A small quantity of this mixture is manipulated with a drop of water into a small granule. A culture medium is also made composed of water, ferrocyanide of potassium 2 to 4 per cent., chlorid of sodium 1 to 10 per cent., and gelatin 2 to 4 per cent. A small quantity of this culture medium is placed in a test tube and into it dropped the seed. In a few minutes the seed begins to swell, elongate and finally forms a stem, later several trunks and branches, which in a few hours may reach a length of twenty-five to thirty centimeters if the size of the tube permits. This structure has the appearance of an aquatic plant, presenting the semblance of roots, stems, of structures which resemble leaves and enlargements which suggest fruit. The stems upon reaching the surfaces of the liquid culture medium spread out like floating leaves. If, in place of using a tube, the experiment is made in a wide and deep vessel, the cultures assume a different appearance, resembling algæ.

The most curious feature in this experiment is said to be the bulk of the plant, which is several hundred times larger than the seed. This material increase necessarily comes from absorption from the culture medium. The experiment shows a complicated state of affairs, since, in addition to the apparent differentiation of horizontal roots, vertical stems, leaves and terminal organs, there must exist a mechanism by means of which the membranogenous substance and sugar can acquire a length up to thirty centimeters. The three functions, nutrition by absorption, growth, and differentiation, which so far has been thought characteristic of life, are here reproduced by purely physical forces. The only function lacking to the synthesis of life is that of reproduction.

The above is in part an editorial which appeared in the *St. Paul Medical Journal*, May, 1907. Whether the experiments can or will be reproduced as described by Prof. Léduc remains to be seen. It will be well to remember that Burke's experiments with radium action on sterilized bouillon or, in so far as we know, Loeb's artificial fertilization of sea urchin eggs have not been confirmed. It may be that artificial life will yet be possible, but we are inclined to the belief that if performed it will be on different lines than those heretofore tried. Synthesis in the laboratory has shown marvelous results. Alkaloids are made identical with those obtained from plants, protein has been elaborated by Fischer, and numerous products obtained through the molecular arrangements of the elements which was thought but a short time since obtained solely from organic products. Progress is being continually made in stereochemistry and the end is not yet, but due allowance must be made for the enthusiasm of men of science, and until these revolutionary experiments are repeated many times we must remain skeptical. Prove all things must be our demand.

REUNITED.

A VERY pathetic mixup occurred in this city recently. It seems that a young woman, whose husband had abandoned her, gave birth to a girl baby. Being without food or medical assistance, with no home or friends, partially unbalanced with suffering and hunger, the mother placed her child in an ash barrel during the afternoon and then hurried away for fear she would be apprehended. A passer by was attracted to the child through a crowd of children surrounding the barrel, and wrapping his coat around the helpless little thing hurried with it to the police station. The officer at the station called an ambulance and ordered out the reserves to make a house to house search for the mother, fearing for her life. While the ambulance surgeon was giving his attention to the baby, a telephone message came for an ambulance. The doctor could not leave the child, and hearing that the call for the ambulance was for a woman found exhausted upon the street who would need to be taken to the nearest hospital, where the child should also go, he jumped into the ambulance waiting for him, still working to revive the baby. The call was for a woman found lying helpless upon the street and in a most pitiable condition. She had just given birth to a child, it was discovered, but no questions were asked about the child, as it was imperative to get her off the street at once. She was, therefore, lifted into the ambulance, where the doctor sat holding the infant on his lap. Through the clothes on the child the woman recognized the baby as her own, which she had but a short time before abandoned. They were hurried to the hospital, and after the mother had been cared for the baby was placed beside her on the bed. She was glad to see it, and smiled while pressing it to her breast. At last report both were doing well.

What strange freaks does fate play, and how helpless we are when left to ourselves.

WHAT NEXT?

We understand that a National Commission, consisting of college Presidents and Professors, is being organized by the President of the University of Illinois to ascertain the exact effects on health of the different food preservatives, and that the Presidents and Professors have appealed to the packers for financial assistance in carrying out their investigations. It does not appear, however, that the Presidents and Professors have asked the packers to furnish the experts and chemists to carry out the investigations, and why not, as these same packers have grown virtuous since the investigations of the Meat Trust and the liberal application of whitewash some two years since. If an investigation of this character is desirable would it not seem that the national authorities with their corps of trained chemists, could be trusted to do it with less likelihood of error, conscious or otherwise, than a committeee of college Presidents and Professors? We are under the impression that it is the failure of Congress to make sufficient appropriation for just such necessary work that the bureau headed by Dr. Wiley does not take the initiative. In fact, if the enforcing of the Pure Food law does not become a farce authorities in Washington must be more liberal with this bureau.

Verily, there are more ways of killing a dog than shooting him on sight.

THE SILVER COMPOUNDS AS BACTERICIDES.

A very interesting and illuminating series of experiments was recently made by request of the British Medical Association to determine the comparative value of the silver compounds as bactericides by a Therapeutic Committee.

The percentage of silver was first determined in the several preparations and solutions made to contain definite quantities of silver. These solutions were then tested on various bacteria and the results noted. The report divides the several preparations into groups:

1. Those powerfully bactericidal.
2. Those slightly bactericidal.
3. Those practically inert as bactericides.

The first group includes a majority of the silver salts, among them being the nitrate, fluorid, citrate, lactate, and a number of organic compounds of silver, such as argonin, albargin, protargol, largin and novargan. The second group contained but one preparation, nargol, while the third group, or those practically inert, consisted of two products: collargol and argyrol. Derby, of Boston, recently conducted a series of similar experiments to determine the bactericidal action of the several silver salts with reference to their action in the treatment of infectious diseases of the eye, with practically the same results.

PIG'S LIVER IN THE TREATMENT OF CIRRHOSIS.

DESPLATS, in the *Jour. dés Sciences Medicale,* August 25, 1906, reports a very interesting experiment in the treatment of a case of alcoholic cirrhosis with the pulp of pig's liver administered by enema. There was complicating nephritis and tuberculous peritonitis. The patient, with an alcoholic history, the victim of cirrhosis, suddenly began to pass blood from the bladder and at the same time developed ascites, for which he was tapped fourteen times in three months. There were the usual symptoms of effusion: abdominal pain, elevated temperature, peritoneal friction, etc., all indicative of peritonitis, probably tubercular. Renal tuberculosis, it was decided, accounted for the hematuria. The patient lost weight and became cachectic. Opotherapy was decided upon, and an enemata of the pulp of pig's liver, 300 grams, or ten ounces, was administered. Twenty-three such enemata were given in a period of two months. Gradually during this period the hematuria ceased, the periodical exudation subsided, nutrition was re-established and the patient regained the appearance of health. The functions of the liver seemed normal, abdominal exudation ceased, while the kidneys appeared in all respects to be sound.

PANCREATIN AND PEPSIN IN COMBINATION.

THE Council on Chemistry and Pharmacy of the American Medical Association have made exhaustive experiments to determine the therapeutic value of pancreatin and pepsin when prescribed in combination in solution or in the Compound Digestive Elixir of the National Formulary with the result that they place their stamp of disapproval upon the combination. It was shown that pancreatin is inert in acid mixtures while pepsin is equally inert in alkaline mixtures. While it is obvious that a mixture cannot be both acid and alkaline, the combination of these two ferments is irrational. Not only does the National Formulary include the mixture under the title of Compound Digestive Elixir, but practically all manufacturers of pharmaceuticals make and market such preparations. It follows that these inert or useless elixirs, wines, etc., would not be made were there not a demand for them by the medical profession. As the Council has requested the American Pharmaceutical Association to eliminate the formula in future editions of the work, physicians should discontinue the use of any combination containing pancreatin and pepsin.

MASTICATION THE CAUSE OF INDIGESTION.

AND now we are told that masticating food produces dyspepsia, in proof of which statement we are referred to carnivorous animals, all of which bolt their food or swallow it whole, in consequence of which they are never disturbed by digestive ailments. The theory is that too much mastication of meats renders them alkaline through excess of and admixture of the saliva. This coming in contact with the gastric secretion neutralizes the acid content which is necessary to a proper performance of the gastric function. The food therefore must lay in the stomach until the hydrochloric acid is resupplied, or pass to the intestine in the same condition as when swallowed. We would like to hear from some of our readers upon this subject.

PREVENTIVE MEDICINE.

(*A Series of Papers by the Editor.*)

Continued from page 352.

EXTRINSIC CAUSES OF DISEASE. GENERAL SANITATION. TRANSMISSION OR COMMUNICATION OF DISEASE.

IN a general way, all diseases may be divided into two classes,—those of extrinsic and those of intrinsic origin. Types of the former are small-pox, syphilis, measles and diphtheria,—infectious and contagious diseases,—which are caused by poisons that pass from one body to another. As a type of disease of intrinsic origin may be mentioned stone in the bladder,—a result of abnormal action on the part of the organism,—which is entirely distinct from disease caused by an extraneous influence. Infectious and contagious diseases are usually transmitted either by direct contact with the person of the sick, or through the air or water, or are carried by certain insects,—flies, roaches, mosquitoes, fleas and skin vermin.

Modern pathology has proven the specific nature of many diseased conditions and their dependence to be due to the entrance and development within the human system of pathogenic or disease producing micro-organisms.

Sanitary science as applied to the isolation of patients suffering from infectious and contagious diseases and energetic disinfection has demonstrated that many of these diseases can be held in check. Better conditions of living, better habitations, efficient drainage, etc., as shown by vital statistics, have done very much to lessen the former great mortality from these diseases.

Transmission of disease. Diseases may be communicated by *Water, Dust, Clothing, Laundry, Food* (*Milk, Meat, Vegetables*), *Surgical instruments, Money and Personal contact.*

By Water: It is well known that diseases such as typhoid fever, cholera, etc., are transmitted to healthy persons through the drinking of water polluted with the micro-organisms contained in the vomitus, feces and urine of infected persons. It is possible that typhoid fever may be contracted by the inhalation of the specific micro-organism, but this is extremely rare if compared with cases due to an infected water supply, or to milk diluted with contaminated water.

By Ice: Impure ice is as dangerous as impure water. For domestic purposes, it should never be gathered from a sewage contaminated river, or a source where the water before freezing was unfit for consumption. The idea entertained by some persons that water, in freezing, eliminates its impurities, is false. Ice may contain 10 per cent. of organic matter dissolved in the water, and in addition, a very large amount of organic matter that is merely held suspended in it. Experiments by Prudden and others have shown that the germs of typhoid fever may become decidedly active, after having been imprisoned in ice for a considerable time. After liberation, through the ice melting, they again become active in the production of disease. Housekeepers should be as guarded in the selection of ice as in the choice of water, and secure their supply only from clean sources. It is now possible in all our larger cities to obtain ice manufactured from sterilized water, which can be largely and safely used for domestic purposes.

By Dust: There is no doubt but that the dust laden air we breathe, especially in our larger cities, is the direct cause of many diseases. That tuberculosis or consumption is transmitted by the inhalation of dust from dried tuberculous sputum, or expectoration, has been positively proven. Moreover, Dr. Manfredi, in a monograph on the contamination of the street surface in large centers, states that he has found in the dust of a city the germs of erysipelas, anthrax or carbuncle, diphtheria, typhoid fever, tetanus (lockjaw), and, of course, the ubiquitous tubercle bacillus or germ which carries consumption. All of these germs for weeks and for months resist the driest weather, while the air carries them to our lips, into our mouths and lungs. Dust settles on our food, and, in this manner, gains entrance into the body. Municipal authorities should be urged not to permit street cleaning without repeated and liberal sprinkling with clean water and preferably an antiseptic solution. The dirt or dust of stores and residences should not be swept into the street, nor should sidewalks be swept without sprinkling.

It may be well to dwell upon the danger of dust in factories as a causative factor in pulmonary diseases. Owners of large factories should adopt stringent prophylactic measures against the possibility of contagion arising from this cause. Efforts should be made among file manufacturers and cutlery makers to prevent the formation, or escape, of dust by using wet grinding. This, however, may not always be practicable, and when not, an exhaust fan should be used. Workmen in these factories should wear suitable masks to prevent inhalation of dust, and they ***should not be allowed to eat in the work room, and this should be the rule in all work shops or rooms.***

Within recent years, a notable reduction of mortality from tuberculosis has followed the adoption of prophylactic measures, such as drainage, etc., which tend to make a drier, and, consequently, a warmer and more sanitary condition of the soil and atmosphere, thus measurably insuring destruction and disinfection of sputa from tuberculous persons. By recommendations of physicians and Boards of Health, ordinances to prevent expectoration on the streets, in public conveyances, and in buildings, have been passed by numbers of our cities, and the infringement of this law is punishable by fine, imprisonment or both. These measures cannot but have a beneficial effect on the health of the community.

By Clothing: The custom so common, of selling the clothing and other effects of deceased persons should be discountenanced, and strictly forbidden, if they belonged to persons who suffered from infectious or contagious disease. Instances are on record of cases of scarlet fever and other diseases being traced to the wearing of apparel purchased of a second hand clothing dealer. Parasitic diseases and vermin are often conveyed by means of contaminated clothing.

By Laundry, etc.: Since the discovery by Hansen in 1880 of the constant presence of a characteristic germ in the local lesions and in the blood of leprous patients, the danger of contagion by contact with such unfortunates, and the possibility of contracting the disease by using the same clothing and table utensils has been practically acknowledged by all authorities, notwithstanding some persons are apparently immune and resist infection even under the most intimate association with lepers. Leprosy, it is believed, has been traced to a laundry handled by leprous laundrymen. The prompt isolation of such patients of late years has done much to keep this dread disease in check. Gonorrhea and syphilis have been conveyed by contaminated towels and clothing, as well as by toilet articles, *i.e.,* brushes and syringes. Razors, shaving cups and brushes, knives and forks, drinking cups (including the communion cup) have acted as vehicles for carrying syphilis to innocent parties. An effort in the right direction is being made in the cautioning of barbers regarding the danger in shaving persons suffering from skin affections. Razors and all utensils should always be washed with a dilute solution of carbolic acid or lysol and boiling water after each use. The powder puff and sponge for general use should be discarded, and the practice of using the same piece of borax, or alum, to arrest slight bleeding from razor cuts on the faces of different persons should be discontinued.

By Food: a. *Milk*—It is now known that milk is one of the most common vehicles for transmitting both tuberculosis and typhoid fever. Altogether too many instances are now on record where the fouling of a general water supply, and the eventual pollution of the milk supply, with the discharges of a typhoid fever patient have resulted in widely spread epidemics. The well-known outbreak of typhoid fever at Plymouth, Pennsylvania, where one thousand cases and one hundred and fourteen deaths occurred, may serve as an illustration of how great a calamity may follow such indiscretion. Milk contaminated with tuberculous material from the tuberculous udders of cows, has been the means of spreading tuberculosis amongst thousands of infants relying on this food for their nourishment. This danger may be materially minimized by subjecting milk to a sterilizing process before being used. The more general use of tuberculin by veterinarians as a diagnostic agent for the detection of bovine tuberculosis and the avoidance of expectorating in pastures where cattle feed will serve as an aid in eventually stamping this disease out of existence.

(b) *By Meat:* It should be impressed upon all, that animals not infrequently contract tubercular disease from the ingestion of tubercular sputa. Cows and oxen are particularly susceptible to this disease. Hence there is no doubt but that one tuberculous patient may by his indiscreet expectoration scatter tubercular disease through a herd of cattle, the meat and milk of which may infect hundreds of persons. Trichinosis in the human subject results from eating trichinous pork. The raw flesh is most dangerous. Sausages, ill-smoked, and partially or quickly boiled ham, may be the source of infection. Salting meat does not necessarily destroy trichina. Preventive treatment consists in eating no pork that has not been so prepared as to kill any trichina that might exist in it. Pork, as well as all other meats, to be suitable for eating, should be subjected to a moist heat of 170 deg. (F.) *until thoroughly well done,* before being eaten.

(c) *By Vegetables:* Many of the intestinal parasites are introduced into the human being by eating uncooked or undercooked vegetables. Intestinal worms develop in the intestines of man, either by the entrance of ova, which grow into the mother parasite, or by the entrance of what are known as intermediate parasites. It is claimed that tenia are not found among the Jews and those who eat no pork. Water cresses, lettuce, and the like often have deposited on them the ova of these parasites, and these when eaten in the raw state, without previous thorough washing, act as the vehicle for the transmission of these intestinal disorders.

By Surgical Instruments: It should be unnecessary to state here that all surgical or dental instruments before use should be sterilized by boiling or by immersion in carbolic acid or in lysol solution. Severe infections have followed the employment of unclean instruments. Syphilis has been unquestionably traced to the use of dental instruments contaminated with syphilitic poison.

By Money: The possibility of infection being conveyed to a large number of people by means of paper money has often been suggested, and recent investigations have proven that the danger is by no means overestimated. Drs. Acosta and Rossi, in the *Cronica Medico-Quirurgico de la Habana,* estimated that two notes weighing altogether about 15 grains, contained more than 19,000 germs of various kinds. The notes chosen for their experiments were some that had been in use for a long time. The custom, therefore, of wetting the fingers with the lips when counting money is a pernicious one, since it must be apparent that many diseases are liable to be contracted in this way.

Infection through Bathing in Unclean Water: In public, as well as in private baths, the water should be perfectly clean. This is measurably effected in public baths by a constant supply of fresh water while an overflow is constantly carrying off the impure water. In private baths the water used should be fresh and the tub thoroughly cleansed at once after use by scrubbing and flushing with clean water.

A number of diseases are communicated through using water which has previously been used by others. Conjunctivitis or inflammation of the eyelids, and various affections of the nose and throat, besides a number of skin affections and vermin are known to have been communicated in this way.

By Urine: That the urine of typhoid patients will infect a water supply is clearly established by numerous investigators, not alone during the prevalence of the fever, but during convalescence, and even as late as six months after the inception of the disease. When the urine of such persons is voided into localities where it may be drained into streams, the same danger is to be apprehended, but to a lesser degree, as when the contents of feces of typhoid patients is carelessly thrown in the neighborhood of wells, springs or running streams. It is, therefore, incumbent upon the nurse, when attending such patients, to disinfect all urine until there is no further danger of the presence of the microorganisms.

By Personal Contact: This includes all contagious diseases, such as scarlet fever, measles, etc., and perhaps gonorrhea and syphilis.

INSECTS AS CARRIERS OF DISEASE.

Mosquitoes: It having been clearly proven that the mosquito is the host which harbors the organisms that are the cause of, particularly malaria and yellow fever, thus bringing into great prominence these pests as a factor in the spread of these diseases, measures looking to their destruction and thus control of the diseases are of very great interest to the laymen as well as the sanitarian.

Stagnant water, whether in ponds, swamps, barrels, flower pots, moist cellars, barns, culverts or receptacles of any kind containing water, are ideal breeding places for mosquitoes, and hence should be abolished by drainage, filling in or otherwise made unsuitable for the insects.

While the mosquito is an air breather, its habits are essentially aquatic. A knowledge of these facts enables us to adopt means for their destruction by first drainage, filling, or where this is impracticable through treating swamps, ponds and receptacles of water with oil, which forms a thin coating on the surface of the water and thus by preventing their access to air destroys them. Petroleum oil is regarded as best suited for this purpose, but it should be borne in mind that drainage or filling in is the only effectual method, while oil is but a temporary measure. The female mosquito is the offender, it alone being sanguinophile (blood thirsty). They seek blood from all sources: young fish, convoy birds, sparrows, horses, cattle, as well as human beings. The male rarely if ever is a blood sucker. His habits are vegetarian, but his greed for liquids is so great that he is said to partake freely of alcohol when water is not available.

Twenty-five days are necessary for the full maturation of the mosquito from the egg. These eggs are deposited in water or moist places, after which the female dies. The insects may fly for miles, but strong currents injure the delicate structure and they therefore seek, during the prevalence of currents of wind, shelter in grass, shrubs and places where there is moisture. This will account for their appearance at the beginning of land breezes. They are conveyed from place to place in railway cars, vessels and vehicles of various kinds and thus appear at times in places where they are not usually found.

There is a specific gland in the mosquito which receives the poison while abstracting blood. From a malarial patient, for instance, the female mosquito abstracts blood containing the parasite of malaria; this traverses the stomach wall, undergoes development, from thence reaches the glandular apparatus, from where it is introduced into the circulation of the victim by the sting of the female mosquito. The cycle of malarial infection is thus begun.

Experiments were made in the Roman Campagna, where every one exposed contracts the disease, to prove that malaria is conveyed by the mosquito. The observers, Low and Sanborn, took up a residence in that district and fitted their houses with screens to prevent the entrance of the insects, kept indoors during the night when the mosquitoes are on the hunt. During three months' residence in the district they did not contract malaria, while those not so protected, and who were abroad at night, contracted the disease. A mosquito which had attacked a patient suffering from malaria was secured, sent to London and allowed to take blood from a person who had never suffered from the disease or been exposed to the chances of acquiring it. This individual was stung by the insect and acquired a typical malaria fever. The plasmodium malariæ or malarial parasite was found in the blood and shown to be identical with that found in the patient in Rome which had been attacked by the mosquito before it was sent to London.

Regarding the part played by the mosquito in transmitting yellow fever, the following summary of the report of the Commission of the U. S. Army appointed by the Government to investigate the subject is given: "Yellow fever is transmitted to nonimmunes by mosquitoes and not by fomites (infected clothing, etc.). A residence of twelve days for the parasite in the mosquito is necessary before it is capable of infecting. Subcutaneous injection of blood from a yellow fever patient is capable of producing yellow fever in nonimmunes. Mosquito-borne yellow fever confers immunity against blood injected from a yellow fever patient. The period of incubation varies from 5 to 13 days. A house or a ship is infected with yellow fever only if it harbor mosquitoes contaminated with the yellow fever parasite."

Among the natural enemies of the mosquito are to be classed small fish, aquatic insects and certain worms. Insectivorous birds such as the night hawk, the whippoorwill as well as bats also prey on mosquitoes, but artificial means must be resorted to in order to completely exterminate them. As stated elsewhere, in mosquito infected localities the first care is to remove if possible from dwellings and other buildings all kinds of receptacles for water. Cisterns and rain-water barrels should be covered with tight-fitting covers, in which may be fastened wire netting of a mesh small enough to prevent the access of the insects and yet give free access of air to the water. Water drains and spouts should be fashioned so as to completely drain themselves. Finally, kerosene oil, the crude petroleum, and not the refined oil which is used for illuminating purposes, should be used in the proportion of 3 to 6 ounces to a water surface of 20 feet in diameter and repeated once in two weeks. This will destroy the pests. The oil distributes itself over the surface of the water and destroys the larvæ or "wrigglers" through its mechanical effect in preventing access to the air which is necessary to their life. They are thus suffocated. Mosquitoes indoors are to be killed by burning Persian insect powder and the entrance of others prevented by screens over all doors and windows. The mosquito which acts as host to the malaria producing parasite is different from the one which transmits yellow fever. The former is recognized by its spotted wings and is known as the anopheles maculipennis, the yellow fever mosquito as the stegomya or culexfasciatus, having a striped belly and bandy legs.

Other Insects: We have spoken elsewhere of the part that water, infected with the germs of typhoid fever, plays in the propagation of disease and intestinal epidemics which could be positively traced to an infected supply. Another source, more to be dreaded than infected water in the dissemination of this disease, is flies as carriers of the typhoid germ, as well as other pathogenic or disease producing microorganisms. This subject of prevention is all important and should receive the serious attention of all municipalities, as well as villages and farming districts. While the destruction of the mosquito is occupying so much attention, the annihilation of the common house fly, a much more to be dreaded factor in producing disease, should claim the united attention of all persons, professional, as well as layman.

The fly is much more to be dreaded than the mosquito for the reason that the former disseminates numerous preventable diseases, while the latter, in so far as we know to-day, only two, and they less destructive to life numerically than the former: malaria and yellow fever. Let a propaganda issue to the people setting forth the necessity for united effort to destroy the house fly. Only thus, and by their co-operation with sanitary boards, together with the talking in and out of season, can we hope to escape the suffering and loss of life chargeable to the meddlesome fly.

The following is a formidable list of diseases proven transmittable by the common house fly:

Anthrax: (Carbuncle) from cattle to man, man to cattle, and man to man;

Cholera: from animal to man, man to animal, and man to man;

Tuberculosis: from man to man, animal to man, man to animal;

Filariasis: (a parasite found in the organs and blood of man) from animal to man, man to animal, and man to man;

Eye Affections: of numerous kinds from man to man;

Plague: from animal to man, man to animal, and man to man;

Typhoid Fever: from putrid material to man and from man to man;

Intestinal Parasites: various kinds from animal to man, and man to man;

Wound Infection: including suppurating infections, probably gangrene and tetanus or lockjaw.

Authorities mention the probability of the transmission of gonorrhea, various skin affections and smallpox. It is probable that other infectious diseases will be added to this list from time to time.

The commission which investigated the epidemic of typhoid in the military camps during the late Spanish War found in most cases that the outbreak could be charged to the fly, rather than to the water supply. They abounded in vast numbers and divided their time impartially and alternately between the open and undisinfected receptacles for the dejecta fresh from the bowels of those suffering from typhoid and other intestinal disturbances, and members of the camp, and the food. This same lack of precaution to protect the supplies from flies prevailed in the camps of the British Army during the Boer War. They contaminated the food by depositing microorganisms while crawling over it, as well as depositing the germ in their excrement.

Experiments were made by causing the flies to feed upon the discharges from the typhoid patients and then being forced to walk over a solid culture medium. Colonies were developed from this culture medium, showing unmistakably that the microorganisms were deposited in great numbers. It was also found that the officers who protected their tents with screens suffered less frequently than the unprotected soldier. The epidemic of typhoid gradually decreased with the approach of cold weather.

Celli inoculated animals with cultures from the intestinal contents and dejecta of flies. The cultures proved virulent, thus showing that the bacillus typhosus abdominalis (typhoid germ) may pass through the fly and be found in the evacuations. The infective material is attached to all parts of the fly—the legs, body, head and wings. Now what is the remedy? Isolation and thorough disinfection of animals and human excrement.

It has been shown that the house fly breeds principally on horse manure and that they spread typhoid and other diseases as carriers of the microorganisms to food and through their dejecta upon cultures, and contact with the lips and hands. Obviously, the remedy must be first to prevent their breeding, and secondly the disinfection of all excrement from those suffering from communicable diseases. Horse manure should be kept in closed vaults or covered tin receptacles and placed therein as soon as possible after being dropped, either upon the floor of the stable, or in the street. Twice, at least, in twenty-four hours, the manure should be covered with chlorid of lime or sprinkled with a solution of sulfate of iron. This will destroy the larva and prevent an increase of the number of flies. Droppings in the barnyard should be similarly treated. Kept under shelter and protected from the rain until such time as the manure can be distributed upon the fields, all the larva being destroyed through this treatment, it will prove a source of profit to the farmer, being the cheapest and most available of fertilizers. It is a great mistake to let manure remain exposed to the weather and rain, as the soluble constituents are dissolved and carried away from the barnyard, instead of being absorbed by the soil in the field.

These closed vaults should be convenient to the stalls where the horses are kept, a tight door opening into the stable with another opening outside, through which the manure could be carted away. This vault could have a shaft running to the roof of the stable, protected at the top by a cone-shaped cover to prevent the rain from entering the vault, while immediately over the top of the shaft should be securely fastened a fine metal screen of a mesh to prevent access of the flies. Such a vault would be inexpensive and would pay for itself many times over through increased value of the manure for fertilizer.

Many suggestions have been made as to the best mode of rendering the excreta of patients suffering from typhoid fever harmless. We have seen the danger of depositing it where it may find its way into wells, springs or streams of running water to be carried to another point. To bury it in the soil affords no security, for the microorganisms are pretty sure to find their way to a well, spring or other source of water supply. It should never be deposited in an outhouse used by others, unless first thoroughly disinfected with carbolic acid, chlorid of lime, or a strong solution of iron sulfate. A solution of several chlorids can be cheaply made which will be found to answer all the requirements. Such a formula is given. Take of:

Ferric chlorid..........	4	parts
Zinc chlorid......	5	"
Aluminum chlorid...	5	"
Calcium chlorid....	4	"
Manganese chlorid.......	3	"
Water......	100	"

Mix and use to disinfect dejecta and urine of those suffering from typhoid. This solution may also be used about the house as a general disinfectant, but should be kept out of reach of children. Excrement treated, one to twenty parts, will be harmless.

Considerable time should elapse after the disinfectant is added before it is emptied into the vault, or if no vault exists, into a hole in the ground from the house and then covered with dry wood ashes or earth.

The greatest care must be taken to destroy any germs that remain on the body of the patient, as well as on the linen.

Finally, incineration of all dejecta from patients suffering from the diseases under consideration would be the ideal method of rendering it harmless, but for obvious reasons this can be resorted to only at great expense and then only in cities. It is hoped that incineration plants will be established in all cities in the near future.

PTOMAINES—TOXALBUMINS—TOXINS.

Many of the common ailments or diseases that the human race is heir to are now conceded to be caused by living organisms. Recognizing the fact that germs do bear a causal relation to many diseases, the questions arises, how do these organisms produce disease? The theories formerly advanced were:

1. Germs deprive the blood of oxygen.

2. The germs accumulate and form mechanical obstructions in the vital organs.

3. They consume the proteids (albuminous principles) of the body.

All these theories have been shown to be defective and hence there has been elaborated a fourth, and the now generally accepted theory. Bacteria elaborate chemical poisons which are soluble in the secretions, and which, when introduced into the system, produce the characteristic symptom of the related disease. The poisons are known as toxalbumins and result from the action of the bacteria on the albuminous substances of the food. Ptomaines are crystallizable nitrogenous poisons produced by bacteria in dead tissue of animal and vegetable substances during the process of fermentation and putrefaction. The number of known ptomaines has multiplied considerably with the march of medical science. From among the great many known just a few will be considered as bearing some relation to the matter in hand.

In a study of decayed cheese, Vaughan separated a crystalline substance producing a poisonous effect like that of the suspected cheese. This substance he called tyrotoxicon, or cheese poison. Later he discovered this same principle in milk which had been kept too long. It has also been found in ice cream made from impure milk. Oysters suspected of poisoning have yielded the same reaction as tyrotoxicon. It was observed that in a few days after decomposition oysters lost this poisonous element, which shows that the substance is unstable, appearing at certain stages only of the process of decay.

Many cases of ptomain poisoning have occurred in consequence of eating impure meat, especially sausages. Upon examination, these sausages were found to contain cholin, neuridin, trimethylamin, dimethylamin, and methylamin. It may be that the fatal results were due to neuridin, a powerful poison, but so unstable as to change by decomposition into the di- and trimethylamin.

It has been stated that all ptomaines are destroyed by such an amount of heat as is employed in the ordinary process of cooking. This might be so if the ptomaines were germs, rather than chemical products; in that case food poisoning would be rare. Brieger has shown, however, that ptomaines are very resistant to the effects of heat and, therefore, that there is but little safety against these poisonous bodies in the ordinary process of cooking. It has also been stated that by boiling the poison will be distilled out and so much diluted by the water used as to become harmless, as most ptomaines—there are exceptions—are soluble in water; but the poison may be located in the center of a piece of meat and thus no amount of boiling causes it to diffuse through the mass of meat to be dissolved. For this reason several persons may partake of a tainted article of food and only one be poisoned, the poison being localized in a particular part of the meat, or, in the case of poisoning from eating sardines, only one fish may be tainted. Stevenson has proven that boiling oil, in which tainted sardines were placed, does not destroy the poisonous product.

Tinned salmon has been the cause of many cases of severe poisoning. The frequency of such cases demands that something be done to prevent further accidents. It has been suggested that canned goods should be labeled with a statement of the conditions of putrefaction, together with a word of caution in their use. A little carelessness on the part of the manufacturers in not properly sealing the tins will often occasion serious results. Those who place such goods on the market for general consumption should be required to do their utmost to prevent such accidents and to warn the public of possible danger.

The covers of canned meat which bulge outwards indicate a fermentation since sealing. An examination of the contents in such cases has disclosed numerous varieties of bacteria. Animals were inoculated with the liquid which gave rise to poisonous symptoms, similar to those observed at times after the use of canned meats. This would indicate that if meat is infected with bacteria before it is canned the heat to which cans are subjected is high enough to destroy the germs. But if ptomaines have formed the high temperature is of no avail, and the meat remains poisonous.

(*To be continued.*)

LONDON LETTER.

As I have mentioned in more than one of my letters, the milk question is now greatly exercising the minds of the British public and of the medical profession. Especially is this the case in London, where those best qualified to know have made no secret of their opinion that the milk trade in London is managed generally upon unsanitary principles, and these same authorities state that it will be in the best interests of all concerned for radical reforms to be introduced at once.

Among the papers which have taken up the matter earnestly is the *Lancet*. A correspondent has contributed recently to that journal a series of articles dealing with the milk transport to London phase of the question. The manner in which milk is conveyed to the metropolis by the several railway companies is somewhat exhaustively discussed, and special emphasis is laid on the fact that the milk cars during transit are neither locked nor sealed, so that it is easy for these receptacles to be tampered with or for dirt to gain ingress.

The last article of the series should be of particular interest to American readers, as in it a comparison is made between the milk supply of New York and of London and of the methods of railway transport of milk to these the two largest cities of the world. It appears that the inhabitants of New York City consume per capita far more milk than do the citizens of London. For, whereas it is computed that London's daily consumption of milk per capita is about 0.20 pint, that of New York is considerably more than half a pint.

The milk conveyed by rail to New York is handled in a more sanitary manner, on the whole, than is the milk carried by trains to London. The conclusion reached by the writer to the *Lancet* is that what can be done in the State of New York could be done in England. At any rate, milk cans before they leave the dairy farms from which they are sent should be locked or sealed, and milk should never be conveyed by rail except in special vans. Chilling or refrigeration is also recommended, for although, as the correspondent points out, the weather conditions prevailing in England and the shorter distances to be travelled do not call for such methods to the extent the conditions in America call, yet chilling of milk during travel would be a valuable precautionary measure in the hot weather, even though the distance to be traversed might be comparatively short.

On May 14 a notable new departure was made by the authorities of the City of London, when a hospital ambulance connected with a series of call boxes was brought into use. This system, regarded as a novelty, will strike American readers as distinctly comical. Of course, in American cities the hospital ambulance system is almost a matter of ancient history. The ambulance in question, which is to be employed to bring patients to St. Bartholomew's Hospital, is an 8-horse power electromotor vehicle with stretcher accommodation for two injured individuals and a similar number of attendants, and is provided with an ample assortment of appliances. If this ambulance works satisfactorily it is intended to provide two others in the east of the city.

A bombshell has been hurled into the medical world of late, which has threatened to cause a very serious upheaval. Pieces of this shell travelled very long distances and the results of the explosion are still in evidence. The publication of a manifesto by several of London's leading medical men in the *Lancet* of a few weeks ago is the startling event to which reference is made. This manifesto set forth the views that in certain circumstances and under certain conditions the administration of alcohol, with due discretion, was both advisable and beneficial.

The publication of this declaration of opinion raised a dreadful storm and its authors were vehemently and even bitterly assailed by the advocates of total abstinence. Some of the men who had put their signatures to the statement when the storm broke showed that they had not the courage of their convictions, and endeavored to temporize and to crawl out of the position in which they had placed themselves.

Whilst on the subject of alcohol, it may be said that in consequence of the proposal that children under fourteen years of age should be excluded by legislation from entering public houses, the consulting medical staff of the British National Association for the Feeble Minded have gathered statistics bearing upon the relation of alcoholism to degeneration with the following results: 1, That parental intemperance is a large factor in the degeneracy of offspring, both mentally and physically. 2, That parental intemperance (*per se*) is not so large a factor as has been sometimes assumed in the causation of congenital mental defect; but that in combination with other heritable taints—for example, tuberculous, neurotic, insane and syphilitic—alcoholism is a prevalent though not altogether predominant cause of idiocy, imbecility and feeble-mindedness.

The British War Office has just issued the following circular to all the commands in the home stations in giving instructions for the weekly issue of one pound of preserved meat in lieu of fresh killed meat. The establishments in which the brands of American tinned meat now being issued to the troops are manufactured have been carefully inspected by officers sent specially to America for the purpose, and their reports have satisfied the Army Council that the quality of tinned meat used and the conditions under which it is prepared and canned by the firms now supplying the army are in every way satisfactory.

Recently the British House of Commons carried a resolution affirming "that drastic legislation with regard to the closing of shops and the shortening of the hours of shop assistants is required."

The Liverpool School of Tropical Medicine has sent out an expedition to Central Africa to study sleeping sickness and to advise on means whereby it can be prevented from spreading into regions not yet infected.

The report of the departmental Committee on Compensation for Industrial Diseases has just been published in England. The Committee recommend eighteen extensions or additions to the six already scheduled, which are: anthrax, lead, mercury, phosphorus and arsenic poisoning and ankylostomiasis. Some of the proposed additions to the schedule are as follows: Poisoning or its sequelæ, Skin diseases incurred when engaged in certain occupations, Nystagmus, or miners' disease, Glanders, Caisson disease, Chimney sweeps' scourge and Housemaid's knee.

On May 14 Mr. Bland-Sutton, one of our most noted surgeons, delivered a very important lecture on the cancer problem at the Incorporated Institute of Hygiene. Mr. Sutton is a well-known authority on cancer and his views are so valuable and illuminating that I shall refer at some length to his address in a future letter.

Sir Joseph Fayrer, a very well-known British physician, died at Falmouth, Cornwall, on May 21, at the advanced age of eighty-three. The deceased, who was created a baronet in 1896, was also a Knight Commander of the State of India. He was a member of several learned societies at home and abroad, and physician extraordinary and honorary physician to the King. He served in the Burmese War in 1882, and throughout the Indian Mutiny and the defence of Lucknow; was Professor of Surgery to the Medical College, Bengal, and was an extensive author on medical and scientific subjects.

NUTRITIVE BOUILLON IN THE GASTRO-ENTERIC DISORDERS OF INFANCY.

By Dr. M. C. Lesage,

Paris.

M. Lesage, in his Thése de Paris, recommends in acute diarrheas of infancy, after the withdrawal of all milk, the substitution of a rice soup in place of water, which has the advantage that whilst diet cannot be continued much beyond a period of twenty-four hours, the rice soup can be given without other food for a period of time up to eight days. Further advantages he claims for his vegetable bouillon are:

(1) The soup is taken very willingly.

(2) The stools improve rapidly.

(3) The weight begins to increase almost immediately. This rapid increase in weight is due to the rehydration of the tissue effected by the presence of the sodium chlorid in the soup. Of course, if the increase in weight is found to be due to edema the soup must be withdrawn at once.

(4) The reintroduction of milk into the diet is facilitated inasmuch as the milk is better tolerated by the stomach when mixed with the soup, as the putrefaction of nitrogenous substances is prevented by the farinaceous elements of the soup, and there is left, therefore, more albumin for assimilation.

Lesage's vegetable soup is made of elements that can be found everywhere, but it must be prepared with great care. Its composition is as follows:

Potatoes 60 grams.
Carrots 45 grams.
Turnips 15 grams.
Dried peas 6 grams.
Dried haricots 6 grams.

These are put in a litre of cold water and allowed to boil for 4 hours in an earthen or porcelain pot, which must be kept carefully covered. At the end of this time the juice is strained and the vegetables are thrown away. The broth being reduced in quantity in the cooking, this is restored to a litre with boiled water and then 5 grams of sodium chlorid are added to each 1,000 grams of liquid. There is thus obtained a decoction of a yellowish hue slightly turbid and possessing a very agreeable savor, making it highly acceptable but possessed in itself of very little nutritive value. It is in short a solution in the water of all the soluble salts (salts of sodium, potassium, phosphates, etc.) contained in the vegetables.

This soup in order to produce good results must be given fresh. It must be prepared daily, and even in the summer months one can by diminishing the proportions prepare morning and evening the amount necessary for the required period. It should be kept in a receptacle submerged in cold water or, better still, in a refrigerator. This soup serves as a base for rice soup in the following manner: The rice flour is dissolved in the cold broth, taking care to break up the lumps which are liable to be produced so as to obtain a thoroughly homogeneous mixture. Then hot bouillon is gradually added and the whole cooked for about fifteen minutes. The quantity of rice flour to be added varies according to circumstances. For infants over 6 months old a teaspoonful is to be added to each 100 grams of bouillon. For still younger infants only half a teaspoonful is put in each bottle.—*St. Louis Medical Review.*

SHORTENING OF LIFE.

In part 1 of the third volume of the United States Census will be found a tabulated statement which shows in a very striking way the rise in the death rate during the decade from 1890 to 1900 for all ages from 60 up.

The figures given are now six years old, and so I have brought them up to date, with the help of fresh information from Washington—a matter of no little importance, inasmuch as the increase has been marked ever since 1900.

Thus corrected for accuracy, the reckoning shows that since 1890 there has been this increase in the death rate for the entire United States:

For people of ages from 60 to 64, 7 per cent.

For people of ages from 65 to 69, 6½ per cent.

For people of ages from 70 to 74, 16½ per cent.

For people of ages from 75 to 79, 7 per cent.

For people of ages from 80 to 84, 15 per cent.

For people of ages from 85 to 89, 12 per cent.

For people of ages from 90 to 94, 30½ per cent.

For people of ages from 95 and up, 20½ per cent.

These figures tell the story more clearly than the most eloquent discourse on the subject. They show that, notwithstanding improved medical knowledge and the benefits of modern sanitation, we are dying earlier than our grandparents did.

The reason why offers a topic for a considerable discussion, and is not to be summed up in a word, but one may discover it without much difficulty in the more complex and luxurious life we lead. The lives of our forebears were comparatively simple, and their constitutions, unweakened by the luxury and intense nervous strain of an existence like that of to-day, were stronger than ours and better able to withstand the approaches of disease.—John V. Shoemaker.

OPSONIC INDEX IN THE INSANE.

In reference to the opsonic index to various organisms in the sane and insane, together with the results produced by injecting tuberculin, Shaw, in the *Lancet*, comes to the following conclusions: 1. As the insane are particularly liable to tuberculous infection a comparison of the average indices recorded in the sane and insane and also in the various classes of insane patients would indicate that the opsonic power of the blood serum can be used as a measure of liability to infection, and that a low opsonic index precedes infection. 2. The injection of a small dose of tuberculin T. R. in healthy persons produces no negative phase to the tubercle bacillus and therefore may be used as a method of diagnosis. A smaller dose of tuberculin will, however, produce a negative phase in a predisposed person than in one less liable to tuberculous infection. 3. To determine the value of a negative phase after injection the daily variation in opsonic power as well as its level at the time of injection must be estimated. For this reason a number of consecutive observations are necessary; a single, or a number of isolated observations is not sufficient. 4. The average opsonic indices of healthy individuals varies little to different organisms. 5. The injection of a large dose of tuberculin, even in healthy individuals, causes a fall in opsonic power to other organisms than the tubercle bacillus. This explains the liability of tuberculous cases to secondary infection. For purposes of differential diagnosis by the production of a negative phase a very small dose must be administered. 6. Large doses of tuberculin can be injected into healthy persons without producing constitutional symptoms. Amount of dose may therefore be a matter of diagnostic significance, as a small dose causes a reaction in infected cases.

HIGH ARTERIAL PRESSURE.

Oliver, *The Lancet*, notes that a persistent pressure rise may be regarded generally as the outcome of some alteration in the chemical composition of the plasma or of organic changes in the circulatory mechanism.

In such instances he says that a diet should be selected which has the least stimulating effect on the circulatory organs. The bulk of each meal should be reduced as much as possible, and various salts, soluble extractives, active principles and other bodies (*e.g.*, alcohol) should be avoided, as they stimulate the cardio-vascular apparatus. The supply of meats should be lessened, boiled being preferable to roasted.

Milk and vegetables are our chief dependence. Cheese in moderation is the least objectionable form of proteid. Fresh water fish are allowable. Fluids at meals should be restricted. Tea and coffee may be used in moderation. Hard water is best avoided, mildly alkaline being preferable.

Alcohol and tobacco should be cut out.

A saltless diet soon becomes most distasteful to the majority of patients. But when there is albuminuria and œdema, such a diet should be tried.

Absolute rest is often of the greatest value. It is the best sedative of exalted ventricular action.

All sudden forms of exertion should be avoided, such as straining at stool, but the taking of regular, moderate, and equable exercise should be encouraged. The cardiovascular stimulation of exercise, however, should always be avoided just after a meal.

Bath treatment is often of value. It is important to maintain the cutaneous circulation at its optimum efficiency.

Venesection may be of service in some cases when vaso-dilator drugs fail to act. The author then reviews various drugs which have been recommended, especially ingested thyroid, which he finds increases arterial caliber and lowers arterial pressure.

Sudden death is one of the recognized dangers of Addison's disease. It is due to syncope and is particularly liable to occur in the more acute cases. Suddenly sitting up in bed may determine it.—*The Hospital.*

NATURE AND TENDENCY OF GOUT.

Ebstein, *Deutsche Medizinische Wochenschrift* (*Jour. A. M. A.*), regards gout as the result of a disturbance in the intermediary metabolism, especially in the metabolism of nuclein, and probably located in the nuclei of the cells. Diabetes, he states, is the result of a disturbance in the metabolism of carbohydrates. Persons who suffer from gout in later life are liable to display certain morbid tendencies in childhood. Such children generally have a healthy aspect, perspire readily, have a good appetite, but with a tendency to indigestion, eczema and itching cutaneous affections, take cold easily, and are especially prone to recurring attacks of granular pharyngitis. Migraine is the most constant sign of the gout tendency in early life; epistaxis in the morning is another sign, as also pains in the joints, dyspepsia and dizziness, signs of neurasthenia and, especially, acidity of the urine, with deposits of urates and uric acid. Other signs of the gouty tendency, even in the absence of actual gout, are variability of mood, depression and a certain disposition to dissimulation. It is important to detect the tendency to gout early and to insist on a simple mode of life with dieting as for obesity, restriction of carbohydrates, with plenty of albumin and fat. He regards vegetable albumin as fully equivalent to animal albumin in the diet. Alcohol should be entirely avoided, as also too much bread, sugar, sweets of all kinds, cake, puddings and other foods that tend to make fat. He adds that the physician is rarely able to impose this mode of life on patients who most need it, but he should never refrain from preaching it, and occasionally his advice may be taken. In any event he may be able to steer into safety the children in families with this tendency.

MUCOMEMBRANOUS COLITIS.

In the above-named disease, J. Liddell, *The Lancet*, considers colon flushing to be the best means of evacuating the bowel and at the same time lessening its irritation. When this is properly administered it clears the bowel more effectually than aperients do, and instead of having a pernicious effect its action is most beneficial.

It has to be carried out with very great care and under certain restrictions, as it may do harm instead of good. But properly administered its value is undoubted. The fluid used must be of a bland unirritating nature. It must also be given under a low and equable pressure or painful spasm will occur and irritation of the colon. The temperature and the quantity of the fluid are also matters of importance.

DIGESTIVE GASTROSUCCORRHEA.

Strauss, *Deutsche medizinische Wochenschrift* (*Jour. A. M. A.*), has studied this subject for twelve years, and has observed the condition in about 100 patients. The symptoms resemble those of hyperacidity or the complaints of patients with stomach neurasthenia, and visceral ptosis is frequently encountered among the patients with this digestive—not continuous—hypersecretion of gastric juice. Boas' study of the subject was reviewed in *The Journal*, March 16, 1907, page 982. Strauss says that the only means for reliable diagnosis is by aspirating the stomach content to determine the emptiness of the fasting stomach, and again after a test breakfast. An unusually large proportion of fluids to the solid contents indicates gastrosuccorrhea. In treatment it is important to avoid mistaking the condition for motor insufficiency, and it is also important to determine the various factors that bring about the condition. The trouble is probably mainly due to abnormal irritability of the secretory apparatus. The dietetic measures should be approximately the same as for hyperacidity. The meals should be spaced and abundant, and in case of ptosis a supporting band should be worn, to prevent further descent of the stomach. Carlsbad or Vichy water, alkalies, little meat but abundance of butter and cream have a favorable influence on the hypersecretion, both the digestive and the continuous. A regular course of milk fats, butter and cream, promotes the secretory and motor functions of the stomach and absorption in the intestines. The patients gain in weight and the hypersecretion is regulated. The fact that certain patients have been relieved of all disturbances by treatment along these lines—although the stomach content remains practically the same—shows the importance of the excessive sensibility of the secretory apparatus as a factor in the condition along with the excess in secretion. He has succeeded in curing by the above measures many patients whose supposed "atony" of the stomach had long resisted treatment.

THE EFFECT OF SALT AND SUGAR INJECTIONS IN INFANTS.

Schaps, *Berliner klinische Wochenschrift* (*Med. Rec.*), found that the infants in the Berlin Asylum for Children sometimes manifested elevations of temperature, that appeared suddenly and disappeared quickly, in conjunction with the addition of a larger quantity of sugar to the food. He was led to believe that this did not depend on any bacterial cause or the absorption of toxins, but rather was the result of the sudden increase in the carbohydrate of the diet; in other words, that an alimentary fever is possible. In order to test this hypothesis he gave infants infusions of glucose and lactose in a strength isotonic with normal salt solution. He found that a typical febrile movement followed this procedure and that even normal salt solution gave rise to an evanescent rise in temperature. He therefore concludes that an alimentary fever exists, and explains it as being due to the disorder of cellular metabolism that is temporarily caused by the alteration in the tonicity of the fluid in which the cells are bathed. The infant, with its imperfectly developed intestinal tract, is especially prone to manifest fluctuations of this nature.

EMOTION EPILEPSY.

Bratz and Leubuscher have had occasion to observe for years twenty patients with what they call "Affektepilepsie," for which they claim a place apart. They say, *Deusche medizinische Wochenschrift* (*Jour. A. M. A.*), that these patients have occasional attacks suggesting petit mal, but with characteristics of hysteria. These attacks develop under the influence of long continued emotional stress, and occur at times from early childhood onward. The persons affected are always those with a neuropathic inheritance, and they are distinguished by a peculiar pallor, evidently a vasomotor phenomenon. Like alcohol epilepsy, it never develops into genuine epilepsy.

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by **Franklin W. Barrows, M.D.**

WANTED: VISITING NURSES.

The first paragraph in the last number of the *Visiting Nurse Quarterly Magazine* states that

> Visiting Nurses are wanted in Burlington, Vermont; Moline, Illinois; Toledo, Ohio; Kansas City, Missouri; Milwaukee, Wisconsin; Muskegon, Michigan; Lansing, Michigan.

Is not this a significant item? Now add to this list an unknown number of communities where the need of nurses is realized but not advertised; then complete the catalogue, if you can, with the many places that need nurses and do not yet know of their need. How big is your list now?

"Why cannot this need be filled by the use of student nurses" asks the *News Letter* of Waltham. We believe the need should be filled by student nurses in the vicinity of every training school, for the mutual welfare of patients and nurses alike. But what of the remote localities and the congested cities where student nurses are not available for all those who need home care?

"Let the poor go to the hospitals." Nurses are still bobbing up serenely with this suggestion. But, good friends, you mustn't think, because you have lived several years in hospital wards, that all the world can go to the hospital in the event of sickness. Elizabeth Lambert says, in the *National Hospital Record:*

> The following statistics will illustrate how much need there is for home treatment for the poor people. In the past 15 years the general population of New York has increased 64 per cent., but the hospital population has increased 85 per cent., which shows the hospital habit is increasing in this community, and the great necessity for a concerted development of the work of home visiting.
>
> In order that a successful system may be developed in New York, all the large hospitals should have a department of tenement house visitation of the sick on principles similar to those outlined above. The city should be districted as it is now divided for the hospital ambulance service. Each district should be assigned to one of the hospitals or dispensaries. Whatever plan is decided, it must accomplish certain essentials. It must concentrate the patients assigned to each dispensary in order that the time of the visiting doctors and nurses may not be wasted in travelling from one end of the city to another, as is the case at present. It must also avoid the error of two or more institutions caring for the same patient. Such a system will demand several innovations in the present New York arrangements. What we need is some scientific plan, with intelligent co-operation of the different out-patient departments of hospitals.

It is gratifying to see New York, Boston, Baltimore, and a few other cities taking steps in the direction of such a plan. It will require good "team work" for even the best of our charitable institutions to make themselves adequate to the needs of our large cities. When this aim has reached its consummation we shall still have on our consciences the task of providing means to nurse and teach the dependent and semi-dependent classes in the lesser cities and towns. Here is a concrete statement of the problem, that might apply to any one of a thousand communities. It is addressed to the *Nurses' Journal of the Pacific Coast* by a registered nurse in Spokane:

> As to visiting nurses, I regret to say we have not done anything of the kind as yet. There are not a great many really poor people

> in our city, although there are many who sadly need teaching how to lead cleaner lives. But we are seldom asked by the doctors to do real charity work, and I am afraid people would resent as intrusion our visits simply to show them how to clean up their houses and themselves.
>
> Perhaps if we knew just how nurses proceed in other places we might make an effort here. We hope to have one of our new nurses help us to get a start in the right direction very soon, as she has done some district nursing in the Eastern cities.
>
> I shall hope to send you something more encouraging in the near future. Meanwhile should be glad of suggestions.

The case is clear, is it not? And no one will doubt the ability of a few such nurses to enlist the interest of doctors and the public and to install a system of visiting nursing in Spokane, or any other city. But how to begin?

A valuable suggestion comes from Dr. Henry L. Shiveley, who writes in the *New York Medical Journal* concerning the work of the nurses and doctors in the Presbyterian Hospital Dispensary, New York:

> Especially helpful has been the association with the lay members of the committee who have given us an insight into the methods of the trained social workers of the Charity Organization Society which have been developed by long experience, and which have done so much to place the giving of all forms of relief upon a more scientific and better organized business basis.

There are laymen in every neighborhood who are willing and able to aid in the work that we are considering, and some are only waiting for the proper ones to approach them with a feasible plan for consideration. Others have never thought of the matter but can be readily interested when the time comes. Though these representatives of the laity may not know all about nursing they do know a lot about other things, and they are essential to the success of any visiting nurse organization.

"I do not believe in *ever* leaving doctors out of our profession. I believe heartily in allowing them a voice in all our interests," writes a training school superintendent, who is also a good friend of the Gazette.

We hope sometime to see nurses, physicians, and laymen combined in one great central association on the plan that is succeeding in Great Britain and Canada and holding out a helping hand to every neighborhood that needs the education and the relief that only the visiting nurse can bring.

Will you help? Could you oppose? Let us know.

HERE'S TO IOWA.

Our readers everywhere will be edified by the report that we present this month from the convention of Iowa nurses. The record that they are making proves the popular belief that nurses can keep awake indefinitely—indeed, the Iowa State Association hasn't slept a wink for a whole year, and it begins another long vigil with an added strength of 100 members.

Before the next convention meets many of the Iowa nurses will be writing R. N. after their names, a privilege that the profession has won by many days of hard work and agitation. Accept congratulations.

This edition of the Gazette is specially large in order to meet the extra demands from Iowa. Let the publishers know if you wish more copies.

ARE YOU GOING ANYWHERE THIS SUMMER?

You have answered this question a hundred times, of course, but if you haven't answered it right think it over again. We need play no less than we need work, though we may need less of it. As Roosevelt has said, "It is a good thing to know both lessons—when you do work, to work hard, and when you play, to play hard, too."

Our President's example is as good as his precept.

Practice what you preach and manage to

get a play-spell at least once a year. Quit the routine that is oppressing you.

> "Come forth into the light of things,
> Let Nature be your Teacher."

THE UNFITNESS OF FITS.

In this month of gushing oratory, skyrockets, firecrackers and effervescing refreshments, many of us are liable to attribute undue significance to noise and froth. It is well for us to heed the observation made by Mrs. Campbell in her address to the nurses of Iowa:

"Fits of enthusiasm avail nothing. Continuous, conscientious, strenuous effort brings results."

A good, live convention generates heat and light. It envelops the fortunate participant in an atmosphere pulsating and glowing with inspiration. Thrice fortunate is that one who carries home a spark of this inspiration; it will be transformed into energy and its possessor will become a force.

Too many pilgrims part with their inspiration when they descend to a heavier atmosphere and arrive home like tired children on the glorious Fourth with only the stains and the smell of powder—burned out, played out, through with the business for a whole year.

Be not so.

A BILL TO PROVIDE TRAINED NURSES FOR THE NAVY.

At the meeting of the American Medical Association in Atlantic City last June Dr. Charles A. L. Reed, of the Committee on Medical Legislation, made the following encouraging statements as a part of his annual report:

Your committee has learned with extreme satisfaction that Surgeon-General Rixey is preparing to make a strong appeal to Congress at its next session to correct a lamentable deficiency in the medical branch of the naval service. The Surgeon-General points out that the American Navy is without a single trained nurse. No matter how severe the illness of the officers and sailors, nor how grave the injury or wound received in the line of duty, the American bluejacket must rely for his care in time of trouble on a hospital steward and an apprentice. In ordinary times the ships' surgeons are often taxed to care properly for the normal number of sick and injured aboard ship. When there is an epidemic of fever or measles (the latter often a serious malady among male adults), such as occurred not long ago on the battleship *Connecticut,* it has been found impossible to give the invalids the necessary scientific and careful nursing required by their illness.

Surgeon-General Rixey has, therefore, worked out the details of a plan for the organization of a corps of trained nurses, such as the Army has.

Afloat these nurses will necessarily be men, but in the Navy hospitals ashore, where the more difficult, lingering and dangerous cases are treated, women nurses will be employed. For $45,000 Admiral Rixey feels that he can make a respectable beginning in the organization of such a corps, and he is seeking support from the Secretary of the Navy and the President in securing the necessary appropriations by Congress. This measure, it is needless to say, should and doubtless will receive the cordial support of the entire medical profession.

NURSES WILL REST ONE DAY IN SEVEN.

Recent legislation in France has made rest on one day of the week compulsory for employés. It is left to the proprietor of the establishment to plan the day of rest so that each of his employés can have one day free out of every seven. The chief of the public hospital and organized charities service, the *Assistance publique,* has asked for increased appropriations, as he will have to add several hundred more persons to his staff of attendants, nurses, etc., in order to provide for the day of rest in the week.—*Jour. A. M. A.*

THE TRAINED NURSE.*

By James Tyson, M.D.,

Professor of Medicine, University of Pennsylvania.

The training school commencement is a latter day event of such importance that it has found its place in the calendar of every hospital sufficiently large to afford the experience necessary to a proper training of nurses. Next to the physician himself, and at times even before him, there is no one on whom the fate of a sick man or woman so much depends as on the nurse. Assuming, therefore, that the commencement which announces that the young women who graduate are qualified, by this crowning event in their training, to take up the great responsibility of nursing, there is every reason why it should be publicly proclaimed for the benefit alike of the community and the graduates. By the public commencement, these two are, as it were, introduced to each other for the first time and the opportunity of establishing further relation is opened.

I have had much experience with nurses, as pupils in the training school and hospital wards, as nurses in charge of wards and in private practice. I was for many years on the training-school committee of two of the largest hospitals in Philadelphia, and probably have examined for graduation more candidates and signed more diplomas than any other physician in that city, while in my long experience I have formed many friendships among them. I feel, therefore, that I may speak freely to you and for you without fear of being misunderstood. My sole object in any suggestion or criticism I may make is to help you, and I may add that the thoughts and conclusions I shall present have been suggested by actual events in my own experience, and are therefore practical and not theoretical, though they may seem commonplace.

You have had the advantage of working more or less according to rule and after a system. You have had prescribed duties. These you have performed more or less efficiently according as you have been individually apt, conscientious and anxious to please. However much you may differ from one another you have satisfied those who have been the judges of your merits. By reason of this you have been permitted to enter upon a new field, a field in which you will not have the advantage of defined and regulated duties. You must think for yourselves and act for yourselves. Unexpected situations unlike those you have encountered even in a large hospital experience will arise before you and demand prompt and original treatment. Your patient may not be so different from your hospital cases, but it is not the patient alone you will have to treat. The mother, the wife, the sisters—I will except only the brothers—but all others, not excepting servants, must be handled with a tact and diplomacy which rarely comes to anyone without training and self-control developed by experience.

Such self-control and tact will come to some easier than to others, but in all it will be aided or retarded by the motive and spirit which has led you to choose your calling, which, while it may not be a profession, is something above a trade or mere occupation. I fear most of you do not differ from the average mortal, in whom necessity plays a more or less important role in the determination of an occupation, but fortunate is she who is actuated in part also by a higher motive, and most fortunate she whose chief stimulus is to play a useful role in life and to contribute her mite towards the general weal of the human family. You will need a motive like this to sustain you in situations such as I have named. But long before this in your ward work you will have learned that the life of a nurse is no sinecure, and if you have formed any romantic notions about it they will long since have been dispelled. Most probationers are called to settle these questions at the outset of their career—the very first week, often the first day—in the wards of a hospital sufficing to dissipate all romance. When vermin, and filth, and disease germs enter at the front door, romance vanishes by the rear.

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*An Address Delivered at the Graduation Exercises of the Training School for Nurses of the Pennsylvania Hospital, March 13, 1907.

A burning question, one of the earliest which you will meet, at the very threshold of your career, is that of compensation for services, and the difficulties encountered are similar to those which beset the physician under like circumstances. From one point of view it may be true that the services of the physician cannot be measured in money. They are beyond price. On the other hand, if the poor unfortunate to whom these priceless services are rendered has not a dollar with which to pay for them, it matters not how valuable they are, the doctor must go unpaid. If the patient has moderate means the pay may be proportional. If he be rich, then may the physician expect to receive some adequate compensation for his services. So it is with the nurse. Her services are at times, indeed without price, but she cannot avoid setting a value upon them. Now, I hold that a nurse's charge, like a physician's, must be based on her experience and adapted to the circumstances of her patient. The family of moderate means, which, in addition to the burden of sickness and doctor's fees and medicines, has to add that of a trained nurse, is often sorely tried to make ends meet. No nurse at her graduation is worth $25 a week, yet I have known many to ask it for their very first case. I have also known a nurse to insist upon the maximum fee when the physician in attendance has been indifferent as to his own fees and has asked for some consideration in behalf of the family. There came to my notice lately the case of a young married woman who was making preparations for her first confinement. She had obtained her baby's outfit and had expended what seemed to her a great deal of money. She thought she could not afford to pay $25 a week for a nurse. She tried in vain to get one for less and finally, in a fit of despair, cried out, "no wonder people don't want to have children." I knew of another nurse registered at the College of Physicians who declined to take a case because her personal comfort was not assured. Such nurses are standing in their own light. From the point of view of self-interest the young nurse who insists on the same weekly stipend as her more experienced sister is making a mistake. The physician does not forget the one who came to his rescue in a trying case, regardless alike of pay and discomfort. Especially in your early experience, therefore, be not too exacting of fees, but accept as part return, at least, the satisfaction which comes of doing good for its own sake. Cast some bread upon the waters, and it will surely return to you, though it be after many days. As your experience grows and you find your services appreciated you may then ask for those higher fees which, when obtained and permanently secured, make the calling of the nurse one of the most profitable in which a woman can engage.

Another question which has to be settled early, and which often excites more discussion than it deserves, is the place of the nurse in the family. Shall she, for example, take her meals at the table with the family? The views of families differ in this respect and it is the nurse's duty to fall in with their ideas. In point of fact it is usually more satisfactory for the nurse to take her meals alone after the family has finished, if the patient is not so ill as to make it unsafe for her to go far from the sickroom. On the other hand, I should deem that family guilty of gross discourtesy as well as ingratitude if they failed to invite to join them at a meal a faithful nurse who happened to be calling at the meal hour. Far more frequently in my experience does such nurse become a friend always warmly welcomed at the hearthstone and table of the family she has served in the distress of a severe illness.

While on the subject of table and food, it is exceedingly important that the nurse should appreciate the significance of delicacy in the method of serving a meal to a patient. Not all persons are equally exacting, but there is probably no one who objects to daintiness in this particular. The fresh napkin, the polished glass and the bright silver, neatly arranged on a tray, stimulate the appetite in a surprising way, while the opposite appointments often disgust a sensitive patient. It may be a matter of surprise to some, but an over-abundance of food, a surcharging of plates with this and that, detracts from that daintiness of service which goes far towards the preparation of an appetizing meal. A higher degree of indifference sometimes leads the nurse to serve drink in an unwashed tumbler or medicine in a spoon unwashed since its last service. I have known a little child to resent such services in a nurse who was otherwise excellent.

A habit of spotless cleanliness is an attribute which is most indispensable in a nurse, both in person and dress. "Cleanliness to fanaticism" is a favorite expression of a most successful chief nurse and training-school superintendent whose methods I admire, which conveys in a nutshell all that need be said to emphasize the importance of this matter. To carry out this dictum it is necessary that a nurse should have a certain amount of time daily to herself, not only for rest, but also to freshen her dress and appearance, which will make her more attractive and no less efficient to her patient. Families, more often from an oversight or abstraction growing out of anxiety rather than inattention, overlook these needs of the nurse, and it is the family physician's duty to look after this. Whenever possible the daily tub-bath should be had, not only for this purpose, but also to keep up the health and good spirits of the nurse, so essential in the house of sickness. For the latter purpose also is essential the daily walk in the open air. On the other hand, it does not do to be too exacting in these matters, since circumstances arise where on account of desperate illness they must be ignored for a time, however desirable they may be. I have known nurses to be needlessly disagreeable in insisting upon these prerogatives and to forfeit the esteem of family and physician by such a course of conduct. I once had a nurse who had many excellent qualities who became offended because she was not formally introduced to the physician to whom I was to transfer the case and would not come into the room when he made his next visit, making it necessary for him to go out and hunt her up. It was an oversight on my part and I apologized to the young woman, but seemingly she was not appeased. It is needless to say that a few days later I was asked to obtain another nurse for this patient.

On the other hand, it does not follow that the nurse is always to blame when it becomes necessary to make a change, and it is not reasonable to expect that a given nurse, however excellent, is adapted to every patient, so that it sometimes becomes necessary for us to make changes for no fault of hers. Some nurses are admirable for men who are not at all suitable for women. Some of you may have read an interesting story by Frank Norris entitled "A Man's Woman," in which the heroine was a trained nurse with many noble qualities, but evidently better adapted to nursing men than women, albeit, she was found wanting in a situation of a man's making, when she gave up nursing one man who lay low in the Valley of the Shadow of Death because another man, whom she loved, commanded it. I know a nurse than whom I want none better to nurse a man, but who was quite unsatisfactory in nursing a delicately organized woman. Not only this, but we find some nurses altogether unsuited to certain patients where it is almost impossible to give a reason. In such cases you must be content to take the doctor's advice, and withdraw in favor of some one else who may or may not be better suited than yourself for the case.

And this brings me to the relations of the physician to the nurse—relations which are of acknowledged importance. There should be the clearest understanding between these two associates naturally leagued against disease and its consequences. The nurse is the lieutenant of the doctor, upon whom depends largely the success of the treatment laid down by him. But this is not her only office. There are many matters which devolve on her for which her knowledge and training befit her which she must carry out without directions from the physician. It is not easy to enumerate these. The most important is, perhaps, close observation of events in the course of the case which may be of value to the doctor in the rearrangement of the treatment. Hence, one of the most important duties of the nurse is her report to the physician of what has transpired in his absence. Herein is room for the most consummate skill. The reports of some nurses are as much too full as those of others are too meagre. Experience, tempered by judgment, can alone teach her the golden mean so much desired. The nurse should be most circumspect in her conversation with the patient's family concerning the doctor. She is rightly or wrongly regarded as knowing all about him. It is scarcely necessary to say to you that she should be loyal to him and avoid unfavorable comment on his conduct or treatment. On the other hand, fulsome praise is, to say the least, in bad taste, and the sensible doctor does not care for it. While the nurse should not be too ready with suggestions or information, the alert physician will want to know her views and often profit by them. She is but a poor nurse whose constant intercourse with her patient does not lead to the discovery of data unnoticeable at the brief visits of the doctor, which may be of service to him. I have had much valuable help from nurses in this way. Yet there are physicians who resent such information, and you must learn by experience the temper of each physician.

The nurse's duty to the patient implies a responsibility no less important than that to the doctor. All that has been said as to the latter holds also of the former. But more than this is implied. Among the additional obligations that of trust stands out conspicuously. Necessarily at times the nurse acquires a knowledge of the shadows which befall the families and person of her patient and the skeletons their closets conceal. Instead of approaching them with curious gaze she should regard them with averted head and veiled eye. Still more must they be held as secrets to be disclosed to no one, rather indeed, to be forgotten as soon as possible. In minor matters, too, the nurse should be watchful and not allow herself to unwind the spool of gossip, to which there is always, naturally, temptation, especially in the weary hours of convalescence, which sometimes hang heavily on patient and nurse alike. And in this connection, I may add, I hope you have had some training in reading aloud, which becomes so often a pleasant occupation for such seasons. Far be it from me, however, to revive the old idea of nursing, that it consists in a book, a fan and a glass of water.

A word in conclusion as to the compensations of your calling, apart from those of pecuniary compensation. You will need the thought of them at times for your encouragement in the darker hours when everything seems to go wrong in spite of your best endeavors. It appears to me there can be nothing more sustaining than the thought that one is striving to save a human life. The very idea of life, with the mystery of its coming and its going is awe-inspiring, and none who have watched it through the flickering of its waning until the last spark has gone, as physicians and nurses often do, can fail to realize this awe. The responsibility of taking life has always been regarded as most serious and, when wilful, to be atoned for only by the life of the destroyer. The saving of a life, too, in the ordinary experience of the world, is regarded as an act worthy of the highest praise, and medals and decorations are daily awarded to life-saving heroes. Yet how little thought is commonly given to the same act as accomplished by the nurse, a silent, lonely sentinel on the watch, often exposed to as much and more danger than is the brave mariner, soldier or fireman. I do not think you need wish that there should be greater publicity to these acts than there is. On the other hand, a career spent in the constant effort to attain such noble ends must be elevating and purifying, carrying with it in large degree its own reward. I am one of those who have always favored opening to woman any occupation which commends itself to her tastes and abilities, but it has seemed to me there is no calling to which the higher qualities of her nature so well adapt her as that of nursing. Owen Meredith has said this so beautifully in his most charming of English poems, Lucile, —you should all be familiar with it—that I feel I cannot more appropriately conclude what I have said than by quoting the lines which embody the thought:

"The mission of woman: permitted to bruise
The head of the serpent, and sweetly infuse,
Through the sorrow and sin of earth's register'd curse,
The blessing which mitigates all: born to nurse,
And to soothe, and to solace, to help and to heal
The sick world that leans on her. This was Lucile."

It may be egotistical, but I think a natural and appropriate wish to place alongside of these beautiful verses the glowing tribute of Robert Louis Stevenson to the doctor:

"There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing."

The doctor and nurse whose lives are dedicated to a common mission of mercy and healing are thus alike honored, and each may glow with pride at such praise from such sources. Yet we must not forget that these tributes serve a slender purpose if they do not also stimulate to higher aims, aims which thrust self into the background and place service to others in the front rank of our desires.

1506 Spruce St., Philadelphia.

THE NURSING OF CHILDREN.

By Miss Minnie Goodnow,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

CARE AND FEEDING OF PREMATURE INFANTS.

(*Continued from page 366.*)

BATHING.

All authorities agree that regular bathing is undesirable for premature children. The first oiling to remove the vernix caseosa may be done very gently and the child sponged with slightly soapy water to get rid of the excess of oil and any foreign matter. After this first cleansing it should not be necessary to give a general bath for some time. The hands and face may be wiped off and the buttocks must be kept clean; it will be found, however, that in most cases much sponging causes chafing and irritation or even cracking of the skin. The addition of a little bicarbonate of soda to the water may help, but it is better to omit water entirely and use oil or vaseline; either of these is effective in removing dirt and at the same time acts as an emollient.

A gentle massage should be given each day and an oil rub at least every other day. Do not use olive oil for this purpose, for even if pure—which is rarely the case—it is not readily absorbed by the skin; benzoinated lard or cocoanut oil are far better.

HANDLING.

The bathing and rubbing may be done without removing the child from the incubator. The nurse should remember to turn the baby a little every few hours, but aside from this and the rubs there should be no handling. The changing can be done with very little disturbance. Care should be taken that the ears be not folded over when the child is laid on its side; permanent disfigurement may result from neglect in this matter.

WEIGHING.

The baby may be taken out of the incubator once a day to be weighed, providing the room is very warm and free from drafts. The scales should be correct beyond a doubt and should weigh to half ounces with accuracy. These children lose as much weight in proportion as full term infants and it is regained much more slowly. If a premature child has reached its birth weight at the end of a month or six weeks its progress may be considered satisfactory.

EYES, NOSE AND MOUTH.

The eyes should be thoroughly washed out with warm borax solution at the time of delivery and should be carefully watched thereafter. Unless there is some discharge from them they will need no more than a daily superficial sponging with sterile water. If any secretion is noticed it should be at once reported to the physician.

Any discharge from the nose should be swabbed out with a small applicator, preferably damp, made from cotton and a toothpick. Great caution is needed in the handling.

The mouth should be inspected at each feeding, but need be washed only as often as is necessary to keep it in good condition; this is to be done with a cotton applicator wet with half-strength boric solution or with sterile water; the finger should never be used and the utmost gentleness must be used, as a slight abrasion in the mucous membrane may become the starting point of an infection.

CARE OF EXCRETIONS.

Both urine and feces should be watched and the amount, character and frequency noted. These excretions should be removed as soon as passed, as the high temperature in the incubator causes active decomposition and may result in the infection of the child. In male infants one must see that the opening of the urethra is kept clean; a flake of cotton or a bit of dried secretion may interfere with urination.

WHEN TO BEGIN FEEDING.

Water should be given freely, as to all infants, after the first few hours of life. Rotch and Holt advise giving nothing but water, or water and milk sugar, for 36 hours. De Lee and Edgar emphasize the importance of early and persistent feeding. The nurse must, of course, do as her physician directs; but if the matter is left to her judgment she is less liable to be criticised if she begins the feeding early.

NURSING.

A child which is so premature as to need incubation is rarely strong enough to nurse. In some instances nursing may be tried, but it will commonly be found that the effort is greater than the benefit obtained will warrant. A child may fall asleep at the breast apparently satisfied when it is in reality exhausted. An ingenious and simple apparatus called a teterelle may be used very effectively in some cases. (The illustration in De Lee's Obstetrics for Nurses, showing it in use, gives a better idea of it than any description.) If either this or a regular nursing be employed, the baby should be weighed on a delicate scale before and after each feeding.

MODE OF FEEDING.

The majority of premature children do not nurse, but may be fed with a tiny bottle, a Breck feeder, or a medicine dropper. The Breck feeder is probably the best; it is simply a large round-pointed dropper graduated, with a very small nipple at the point. An ordinary dropper often has sharp or rough edges which may injure the child's mouth. Bottles, glasses and droppers should be well warmed before using and pains taken to keep them warm while the feeding is going on.

AMOUNT OF FOOD.

A nurse unaccustomed to the care of these infants is almost certain to overfeed. A new born infant's stomach is small in proportion, but increases rapidly in size during the first week. If too much is given regurgitation takes place and particles may be drawn into the trachea, causing asphyxia or pneumonia. This is a very real danger and should be guarded against by giving small quantities; often a dram or less is all that can be retained.

When the quantity given is so small, it is obvious that frequent feeding will be necessary. One cannot do better than to follow De Lee's tables in regard to both time and quantity.

To an infant weighing less than three pounds 15 drops of nourishment is given every thirty minutes, during the first day, 30 drops every 45 minutes the second day, 1½ drams every 1½ or 2 hours the seventh day, and so on. To those weighing about four pounds he begins with 1 dram at 45 minute intervals.

The total quantity given in twenty-four hours should be recorded. It may vary from 2 ounces given to a very small child to 5 ounces for a larger one the first day. These amounts are increased very rapidly, and at the end of the first week 4 to 12 ounces may be given. After the function of digestion is well established the rule is to give one-fifth of the child's body weight.

The amount of food given may also vary according to the child's condition and appetite. If more can be taken without regurgitation, and the larger quantity digests well, it is the part of wisdom to increase it. The doctor often leaves this matter entirely to the nurse, but she should keep him well posted in regard to it.

KIND OF FOOD.

It is an established fact that mother's milk is the best food for any infant, providing, of course, that such milk is of good quality. With premature infants it is a vital matter and no trouble or expense should be spared to obtain it. In a maternity hospital it may be easily done, as the amount required is usually so small that there is no danger of robbing another child. It is not necessary that the woman who furnishes this milk should be recently delivered, though it is better that her child should not be more than a month or six weeks old.

Even if breast milk must be brought in from outside, it should be secured if it is at all possible. A small sterile bottle may be sent daily, and the woman who is to furnish the milk instructed how to sterilize her breast pump. The milk thus obtained may be kept on ice, warmed and diluted as needed; it should be shaken occasionally to keep the cream well mixed.

Breast milk must be diluted at first in the proportion of two parts of milk to one of water. About the fifth day pure breast milk may be tried and, if the child digests it, may be continued.

If there is no possibility of obtaining mother's milk whey is probably the best substitute. It should be diluted one-third and a small amount of cream added. A dilute modified milk is also used, or even peptogenic milk. Most physicians prefer not to try the prepared foods.

Nurses should remember to give water in sufficient quantities.

If the nurse has the slightest doubt about the food agreeing with the baby, she should at once report the condition to the physician, show him the bowel movements, and give him all the data possible from which to form an opinion. A nurse sometimes mentally criticises a doctor, or even hints at neglect on his part, when the real difficulty was that she neglected to keep him posted. A doctor has a right to assume that his patient is doing well if the nurse does not inform him as to the contrary. Nurses should remember that a doctor sees his patient but a few minutes each day and that there are many things which he cannot know unless he is told.

GAVAGE. NASAL FEEDING.

Very small and weak infants may be unable to swallow, or unwilling to make the effort. These cases are rare, but occur occasionally. They must be fed by either a stomach or nasal tube. A small sterile catheter with a funnel attached may be used for the purpose. It will be found very easy to pass, either through mouth or nose, and there is not much danger of getting it into the trachea. The child's head should be held up a little and slightly to one side; the tube should be filled with milk and clamped with the fingers while it is being passed; a mark should be placed on the tube about four inches from the eye to insure its insertion a proper distance; the fluid is to be poured slowly in, the tube gently withdrawn, and the child laid carefully down; it should not be disturbed for some time afterwards, but should be watched for regurgitation or any symptom of overfeeding.

RECTAL FEEDING.

Rectal feeding may also be resorted to in appropriate cases. The smallest size rubber catheter may be used, or a medicine dropper; the dropper is the easier to manage, but it must be very carefully handled to avoid injury to the parts. If a small quantity of the fluid is given slowly and a bit of cotton held against the anus for a few minutes afterwards it will usually be retained, as the peristaltic action is not ordinarily very vigorous. Alcoholic stimulants may also be given successfully by this method.

PREVENTING INFECTION.

Every precaution must be taken to guard the premature infant from infection, as it is much more susceptible than a full-term child. Urine and feces and any vomited matter should be removed from the incubator as soon as passed. The mouth and nose must be kept as clean as is possible without causing an abrasion. The cord must be watched for any sign of infection there and, if there is the slightest redness, alcohol is to be applied.

The incubator must be scrubbed with soap and water and an antiseptic solution after each occupant; it should be thoroughly aired and sunned, and may even need an occasional fumigation.

CAUSES OF DEATH.

These children die less frequently from digestive disturbances than from some interference with the action of the heart or lungs. In many instances premature infants die from lack of lung capacity, due to arrest in development. This may be obviated at times by making the child cry vigorously as soon as born; if this precaution is omitted there may be no difficulty for some days, but it is sure to come, and the child dies from imperfect oxygenation of the blood.

The nurse must be constantly on the watch for cyanotic attacks, fainting, or imperfect respiration, and should have everything at hand for such emergencies. A hot mustard bath—not too strong—is a valuable stimulant. Two or three drops of brandy or whiskey may be given in a half-dram of water by rectum. Oxygen in small quantities may be employed to good advantage, and frequently succeeds when everything else has failed.

If convulsions occur a warm mustard bath may be given. Better still is a mustard pack, made by wringing a cloth out of rather strong mustard water and wrapping it about the child's body. A cool cloth may be placed on the head. Oxygen may be given if it is at hand.

Other emergencies receive the same treatment as with full-term infants.

No class of cases requires more careful handling or greater faithfulness than these and none give more definite results. In none does a nurse receive more appreciation from family and from physician. If the nurse who has had training and experience along this line will let the fact be known she will find herself in good demand.

(*To be continued.*)

REPORT OF THE FOURTH ANNUAL CONVENTION OF THE IOWA STATE ASSOCIATION OF GRADUATE NURSES.

The fourth annual convention of the Iowa State Association of Graduate Nurses was held at the Ballingall Hotel, Ottumwa, Iowa, Tuesday and Wednesday, June 4 and 5, 1907.

Tuesday, June 4, 10:30 A.M.

Registration of Delegates. Presentation of Credentials.

Payment of Annual Dues.

Tuesday, June 4, 1:15 P.M.

The meeting was called to order with the president, Mrs. Estella Campbell, of Des Moines, in the chair. Mrs. Ida C. Neff, of Waterloo, was elected as secretary pro tem. Invocation by Dr. F. F. Stoltz, Pastor of the First Presbyterian Church, Ottumwa.

ADDRESS OF WELCOME

by Mrs. E. P. Barton, President of the Ottumwa Hospital Association:

Madam Chairman, Ladies:

In the name of the Ottumwa Hospital Association I welcome you.

It certainly affords me great pleasure to be called upon to address a body of women that has taken up the noble work of nursing. It is one of the few occupations that does not unfit her for the noble place in life God intended for her—that is, the home; in fact, it rather tends to perfect her in knowing how to care for those entrusted to her.

Your progress has been phenomenal. The good you have done and are doing is beyond the conception of the human mind.

Page after page has been written extolling the valor of our soldiers; not a sentence ever written that applies to them that does not apply to you as well. You do not rush out in the fever of excitement to the call of the bugle or the beat of the drum. No, you go quietly and deliberately to the call of suffering humanity, helping human nature when it is unable to help itself.

No call ever came, matters not whether it was to care for the leper, to watch the slow but sure ravages of death, or to nurse the deadly disease of cholera or yellow fever, that snaps the cord of life with scarcely a moment's warning, that you have ever been found wanting, knowing as you do that you are liable to contract the deadly disease. That is what we call true heroism.

The young woman entering the training school, unless she fully realizes the gravity of her position, does not tarry long. She must be kind, patient and willing at all times to make sacrifices and thoroughly conscientious, for we place our lives and the lives of our loved ones in her care. What trust, what confidence. Is it not beautiful? I am glad I am able to say you have justly merited this confidence.

How few of you who cannot tell of some long and weary watch; not even removing your clothing for the much needed rest; a cot, possibly, by the bedside; a few moments' rest now and again. I may say, you watch while you sleep, for your patient scarcely moves that you are not up and ready to serve him. Oftentimes after this long vigil God claims the life He gave and He alone has the right to take. We find the nurse still at her post, wiping the cold perspiration from the brow, possibly of one far from home and friends. We hear him entrusting a loving message to a kind father or mother or sister as he is about to close his eyes in the long last sleep and we hear a prayer asking God in His goodness to be merciful. So you not only act in the capacity of nurse, but mediator as well.

It is quite edifying to note the raising of your standard, making only those eligible to your ranks who are of high moral, mental and physical standing.

We are glad to see you organizing, for in union there is strength.

Ottumwa certainly feels honored in being the favored place for holding this convention and we bid you a hearty welcome.

We are proud of our hospital, its phenomenal growth and the wonderful good it is doing. It is known far and wide owing to the untiring effort of our most efficient superintendent, Miss Trotter.

We are proud of our nurses, who are second to none in the profession, and of our doctors, who have done so much toward the building up of this good work. As a noted surgeon remarked to me, there are two traits that go a long way towards making a good doctor—that is, goodness and honesty. These are traits our doctors truly possess in connection with their skill.

So wishing you God speed in the good work you have undertaken, I thank you.

In the absence of Miss Grace Baker, of Cedar Rapids, who was to have given the response to the address of welcome, Mrs. Estella Campbell, of Des Moines, State president, responded, incorporating the response in her annual president's address. She thanked the president of the local association, and the nurses in general for the generous welcome which had been extended to the nurses of the State and for the manner in which they had been received in the city of Ottumwa. Her response was simple and sincere, and her manner compelled her hearers to feel that she was not simply speaking the words as a matter of form in behalf of the State association, but that she really and sincerely felt the thankfulness that she was expressing.

ADDRESS OF THE PRESIDENT.

I deem it an especial privilege to again meet with you at this, our fourth annual convention. Since our organization, in January, 1904, I have been in the closest touch with the workings of the society; its aims and ambitions have been a part of my everyday life and I have experienced only gratification at the strides being made, realizing that each achievement was marked with heroic effort on the part of the members. During the past year such enthusiastic interest has been manifested in every movement that future undertakings have assured success. To give a detailed account of what has been accomplished would require more time than we have to spare. However, our interests are increasing daily, our influence is being spread and we are becoming a power for good in the State. There has been a marked increase in our membership, applications are being made constantly and it has, indeed, been a pleasure to note the effort put forth on the part of the nurses to attend this meeting. There are many with us in spirit who were unable to get away from duty, but we have their heartfelt good wishes in whatever work is taken up during these two days. It is always a stimulus to feel that we are a working part in that great national organization of nurses, that we are, so to speak, one of the vertebræ in the backbone of that magnificent body; but, best of all, we have accomplished that which has caused us many hours of hard work and worry—State registration. Through these acts we have laid a foundation impossible to uproot. Let us build to it.

The legislative committee will give you a complete report of their work. They certainly deserve endless praise. What this work required of physical strength and nerve force only those on the ground can possibly appreciate. Difficulties that looked insurmountable were overcome; hostilities, and there were plenty of them, were met and conquered bravely and with wisdom. The prudence exhibited by these faithful workers certainly demonstrates to us the fact that "the characteristic of genuine heroism is persistency." A great many of the nurses appealed to, failing to catch the real purpose of the movement, did not respond, but in general there was hearty, co-operative work done and to this is the final outcome largely due. Though much has been accomplished, many problems remain to be solved, and there is no time for relaxation. If the individual members would but realize that each one has a part, that on her rests the responsibility of this organization to a certain extent, the work would flourish. It is well to feel with Emerson that "self-trust is the essence of success; it persists and is of undaunted boldness not to be wearied out." Membership does not mean the mere paying of dues, it means active personal interest in every question that concerns this society. I would like to see the members of each comittee put forth special effort to make their department the best of its kind. May the ensuing year bear fruits of more pronounced individual action on the part of the members. Fits of enthusiasm avail nothing; continuous, conscientious, strenuous effort brings results.

We have these two days together in which to become acquainted, to have an interchange of ideas, to plan the movements of the coming year, to determine the steps necessary to further our development and to gather fresh ardor. Let not one moment be wasted. There is much to be gained during these short periods if we but make the best of every opportunity. The reports we are to hear are lengthy and of vast importance; we have more ground to cover than at previous meetings, and I want to urge you to be in your places promptly at the hour set for opening each session, ready with keen interest for each subject as it is brought up in its turn. Vigilance must needs be our watchword and success will crown every effort.

ROLL CALL AND MINUTES.

The president's address was followed by roll call and the reading of the minutes of the last meeting of the association. A few slight changes and corrections were made in the minutes, after which they were adopted. This was followed by the

REPORTS OF STANDING COMMITTEES.

Credentials—Miss Garrod, Davenport.
Finance—Miss McDaniels, Cedar Rapids.
Publication—Miss Slaughter, Ottumwa.
Constitution—Miss Rogers, Des Moines.

This was followed by the reports of societies, the appointment of a nominating committee and a committee on resolutions. The last number on this afternoon's program was the following paper on

THE DUTIES OF A TRAINED NURSE AS AN OFFICE ASSISTANT

by Miss Gertrude Noble, Sioux City.

The trained professional nurse is a necessity to the modern physician and incidentally to the modern patient.

As the physician is coming more and more to specialize his work, the trained nurse in order to serve him more intelligently has to do the same. We have now the nurse who educates herself for a special line of work, among which may be mentioned Superintendents of Hospitals, Anæsthetists, Surgical Nurses and others.

No matter what we undertake our position is always subordinate to the doctor and we should never let this fact escape our minds. Let us try to thoroughly understand our special duty, its extent and its limits, and never be guilty of overstepping the bounds of professional propriety. It remains to each individual nurse to prove the thoroughness of her training by showing how completely and exclusively she can mind her own business. If knowledge is real and genuine it will always prove a valuable possession.

The duties of an office assistant depend to a considerable extent upon the field in which the doctor is located, the class of practice, the size of the town, and whether or not the physician by whom you are employed is a specialist. I will try in this brief paper to tell you some of my duties as an assistant in the office of a physician whose practice is limited exclusively to surgery.

The people coming to consult the doctor must be met in a pleasing manner. This may seem very simple, but it requires the daily exercise of gentleness, firmness and, above all, tact.

We meet so many different temperaments; so many are by their sickness sensitive, irritable, scared and troubled. Many ask needless, foolish and, possibly, impertinent questions, but I have found the best way is to be civil and kind to all and by taking an interest in each and all troubles to help the patient. Civility does not consist in words only, but in deeds, smiles and manners and can easily come to be a habit.

In preparing patients for examination they are very apt to want to remove very little of their clothing. This must be overcome as the physician needs every advantage possible, and by explaining this to the patients and properly protecting them with sheet and towels this embarrassment is easily overcome. The positions most commonly used are the dorsal, knee-chest and Sim's position and with these you are all familiar.

When preparing for an office operation too great care cannot be taken to sufficiently roll back or remove such articles of clothing as might become soiled. The patient may not say much if he is obliged to draw up a garment soiled with blood, but it will embarrass him a great deal at the time and he will be very apt to mention it to his friends.

Local anæsthetics are usually employed in office work, but frequently an anæsthetic is necessary and the nurse must be able to administer it. This is a study of itself, as mentioned above, but a good many office assistants like myself give anæsthetics at the hospital during the morning hours and spend the remainder of the day at the office.

In my experience ether has been the choice and is always given by the open method. The inhaler used is the improved Esmarch, with two thicknesses of stockinette over the frame. When the patient's face becomes flushed a few layers of gauze are added gradually until the patient is surgically etherized; then some of this gauze may be removed. The open or drop method is used by taking a four-ounce ether can and fitting a cork, with a groove on each side, into its mouth; fill one groove with absorbent cotton and let it extend out of the can about one-half inch. You can easily regulate the drop by the manner of twisting the cotton. Suggestion is a good aid in producing a comfortable narcosis and so much depends upon the manner of approach; one must try to get the patient's confidence and at the same time must be quick to notice the temperament and decide which mode of suggestion will be the most effective. I have found it very effective to request the patient not to talk or "breathe deep," as we so often hear, but to let me talk, and by suggestion to suit each patient and at the same time prepare him for each stage of anæsthesia by explaining just how the anæsthetic is expected to affect him. There are many important points to watch while administering an anæsthetic, no one of which you can entirely rely upon. We must always watch the character of the pulse, but an irregularity of the respiration is an earlier indication of trouble. The pupil contracted to normal size indicates surgical anæsthesia, while a rapidly dilating and fixed pupil is a danger signal. The color of the blood is also important.

With the modern sterilizers at our command the care of dressings and instruments is easily accomplished.

The dressing of wounds, both emergency and after operations, constitutes one of the chief duties of the office work. Perfectly clean wounds will be sealed with iodoform collodion, and the dressings are not usually changed but once till the stitches are removed. In lacerated, contused wounds, also in pus cases, among which may be mentioned the carbuncle, the moist dressing is applied. This is made by applying gauze moistened with some antiseptic solution. For wounds of this character we use dressings made of Balsam Peru ʒss, Ol. Ricini ℥i. This is sterilized. Oiled silk or rubber tissue is often used in this class of cases and the dressings are held in place with a snug bandage.

In cases of severe infection a hot boracic acid solution is applied, covering the entire arm or leg, as the case may be, with the gauze and rubber tissue; this has to be taken care of at the home or hospital as it requires frequent changing.

In cases of old ulcers or skin grafting a moist dressing of normal salt solution is often used. In these cases great care must be taken in removing dressings not to destroy the thin skin which has formed.

While the few suggestions as to dressings are given simply as the result of my own experience and observation, the nurse must at all times apply the special treatment suggested by the attending physician, whether she agrees with such suggestion or not.

In closing I wish to repeat that the nurse who succeeds in office work is the one who carries out to the letter the wishes of her employer concerning the care of patients, and the one who, inspired by loyalty, receives and tactfully manages every patient as though such management was to redound to her own credit and advancement rather than to his.

A motion was made by Mrs. Tyrrell, of Des Moines, that this association be incorporated. After considerable discussion this question was left open, to be taken up at the next business session.

Invitations were extended and accepted from Mr. Julius Swenson, of the Swenson Drug Co., for the Convention to be his guests from 4:30 to 5:30; from Dr. and Mrs. D. C. Brockman and the other physicians and their wives of Ottumwa for a reception to be given at the home of Dr. and Mrs. Brockman on Tuesday evening, from 8:00 to 11:00; from the ladies of the Ottumwa Hospital Association for a trolley ride and tea at the Country Club Wednesday afternoon at 5:00.

Adjourned.

June 5, 1907, 10:30 A.M.

The meeting was called to order with the president in the chair. Minutes of the last session were read and accepted. A paper was read on

HOW WE MAY ENTERTAIN CONVALESCENT CHILDREN

by Miss Mabel Baugh, Des Moines.

During the days of the real sickness the clever nurse is given a chance to study the home life of the child and the family in general, to know by the time convalescence sets in something of the tastes and desires of the child. The mother of the household may in some cases have very decided ideas as to what is brought before her child in the way of amusements. For instance, one home I have recently been in hid the funny papers as soon as they were delivered on Sunday morning, as these ideas might form bad impressions in the child mind. In another home in which I was placed immediately after, the funny papers were a source of amusement to the sick child for nearly all the following week. So it is wise at first to become acquainted with some of the ideas of "mother." Woe unto the nurse who instills into a young mind ideas that the fond mother is sure will some day bring ruination to her child. The nature of the stories read or told is usually thoroughly weighed by the mother. One will insist on stories of fact and not fancy, while another is not so particular. A little perception on the part of the nurse will win confidence.

Another thing to be considered is the age and sex of the child, together with the amount of the exertion of the entertainment and the strength of the child.

How the wee little girl of a few years loves her dolls, and recently I knew a very little boy who would not under any circumstances go to sleep without his "sailor boy in blue" tucked close to his side—and lucky is the nurse who can get them to slumberland so easily. We are sometimes called upon to transfer our profession to other lines, such as that of a dressmaker, for the dolls like new dresses, and how quietly the little one will lie and watch the building of a new gown for her favorite doll, with an anticipation of dressing it as soon as she is able.

Another side issue in the professional line is that of an artist or sculptor. When the funny papers are approved what entertainment it is to cut out all those funny forms—some may be colored while others are not. Those not colored may be often transformed into gorgeous colors with a touch here and there by the water color brush or with colored pencils, and the most tiny fingers will sometimes surprise you by putting "Lula and Leander" into fine new costumes—and what fun for both the boys and the girls.

Among the amusements of the kindergarten age we find the threading of colored beads, cubes and straws, with the bright little squares of paper, or the folding and weaving of colored papers.

Another occupation very dear to the kindergarten heart is the moulding of clay. No tools are needed save a toothpick for perforating and a knife to trim the ragged edges. There is a clay used by kindergarten teachers which comes in one pound bricks at a very reasonable price and in several colors. The moulding of fruits, animals, baskets, nests, eggs, doughnuts, etc., will furnish amusement for a long time.

A large pan filled with sand gives great pleasure, and when dampened with warm water the child can make castles, or he may fancy farming, building rail fences of toothpicks, using sprigs of cedar for orchard trees and the animals from his Noah's Ark for "live stock." A piece of looking-glass makes a fine sheet of water.

The back numbers of the *Delineators* and fashion sheets make beautiful paper dolls, and the different dresses, shirtwaists, skirts, opera gowns—in fact, this doll can have gowns for every and all occasions—and the little possessor may be made to feel certain that her paper dolls are much better provided for than any other doll in the neighborhood. Pride is a great tonic.

Did you ever go into the railroad business? Just a short time ago I built railroad tracks over the bedroom floor for an hour at a time, running trains on schedule time, acting as engineer, conductor, brakeman, train inspector, ticket agent, etc., all at the same time. The child, a boy, was delighted. How many entertaining mechanical toys we find.

We go a little beyond the kindergarten age and we find the boy who would rather hear an historical story or a "wild and woolly West" story than to take his medicine—most any time—and is really quite disappointed when you stop long enough for medicine or nourishment. Some like to hear the modern tales while others think the old thread-bare stories of "Little Red Riding Hood" or the "Three Bears" is never too old to be good. I think the "Three Bears" story has become quite modernized into the "Roosevelt Bears."

Perhaps the greatest bugbear of the sick room is the medicine or the nourishment—especially when the nourishment is restricted. The child always wants something else, or prefers everything. There are certain things that must be eaten even when the appetite is at low ebb. Strategy takes time but it pays. Cut the toast in small odd shapes—diamonds, oblongs and triangles—arrange in a pretty design on a Japanese napkin. Let the child take broth through a straw from a glass instead of the "same old spoon" and the same old bowl. Put a cracker boat with a toothpick sail in the soup. Conceal little eatables in paper tents and persuade the child to eat from one in order to learn what the other contains. Keep in mind human curiosity.

An invalid table is sometimes arranged by placing a box on each side of the bed and resting a board crossing the bed, on the boxes. On this the toys and meals may be arranged and the child made to feel that he is not quite "eating in bed"; he has a table.

Many amusements may be brought before the child with satisfactory results. At first the nurse may find it practical to take the active parts of the amusements and let the child look on, while a little later the child may enter into the active part of the amusement himself—for a reasonable length of time.

Play may become very tiresome to the weak little bodies, and a good nap should be insisted upon occasionally.

As the hours fly past they soon become days—our little convalescent is out and giving the nurse her "honorable discharge."

An interesting discussion of the paper read by Miss Mabel Baugh was opened by Miss M. E. Smith, of Clinton, who said:

Though writing a paper is not a new departure for me, a discussion is something out of the order, and my ideas about what constituted a discussion were a bit hazy. So I put the question to a physician and the prompt answer was, "tearing the other fellow's paper to pieces." If upon the rending to pieces of Miss Baugh's paper, to find flaws, rests the interest of my efforts, I must fail, for I most heartily agree with her remarks, and I am sure that they will be helpful to us all; so I can but add a little more, gleaned from my experiences and observations. I believe that the hardest, most trying part of every illness, where a nurse oftenest fails, is that period we call convalescence; in my idea it is the time that a nurse proves her worth, for it is an irritable, exacting time for the patient; this is especially true of the little folks. First of all, I believe that a nurse who has not a real love for children had better refuse to care for them. They are our severest critics or our warmest admirers and are quick to see whether our interest in them is a real loving one or a feigned one. A nurse who really loves little ones is sure to succeed with them, and sometimes a nurse who tries the patience of every other member of the household is kept because she is so good "to our girlie and she loves her so." During the child's serious illness, when nothing is of much interest, his confidence and affection are won by skill, knowledge and tact, and with this advantage the interest may be kept all during the weary days by a ready ingenuity.

As Miss Baugh has suggested, the beautiful toys, books and kindergarten utensils are a great help in the entertainment of the children, but these are old and they have lost their value as a novelty, perhaps, before they were put to bed and then upon the ingenuity of the nurse depends the entertainment of the child. I have found the little girl finds it easier to pass the hours than the boy, though to me the boyish plays were more interesting. The average little girl loves her doll, and I have found that the new way of playing with paper dolls is vastly interesting and requires considerable work for the idle moments. A large book is selected and each page is a room; the first page the porch, for which the furniture is cut out and pasted, and so on through all the rooms of the house, even on to this present day —a garage for the automobiles. The searching through magazines, advertising pamphlets, etc., for the necessary furniture, and then the cutting of them out and pasting them into the book is a task and pleasure for many an afternoon, to say nothing of the unfashionably large family who occupies the mansion. The small boys, as well as the girls, are fond of their dolls and Teddy bears, but in the active boy the long hours are often irksome. With one young boy the bed was a boat and the rigging of the sheets was quite a morning's accomplishment. The rug beside the bed was either a gangplank or a raft, depending upon how we could best utilize it, and woe betide the unhappy persons who stepped off that rug without mentioning that their feet were wet or to call for assistance to save them from drowning. This play we carried out into convalescence and the first days out of bed were the first days on shore, one day spent in London, another in Paris, and so on, so that by the time I left him we had been around the world and had just safely returned to New York.

With another little patient it was the question of diet and medicine, so I hit upon the happy thought of running a drug store with a soft drink stand. Each time a pill was needed I wrote a prescription as the doctor, was then the messenger to the drug store, where I was the pharmacist, and sometimes the pill was made up in a piece of bread, another time in jelly or a piece of cake, and so on, changing the kind of pill. For the nourishment he paid me in paper money, and numerous were the glasses, ranging in shape, size and color to suit the name of the drink he was to have. When this diet was increased we had a hotel, and sometimes I tried my ingenuity to fix up something which he ordered to resemble what he could have.

Story-telling is a fortunate gift, but not always efficient. One child will listen to stories until your throat is tired, while another will say, "I hate stories."

I found in my private duty, and carried it on in my hospital work, that it is a very good idea to have something entirely different for the hour after supper, that trying time to both nurse and patient, for we both are tired. In one hospital with which I have been associated we had a very nice children's ward, and I called from six to seven my children's hour, and spent that hour with them, telling them stories, singing songs with and for them and, last of all, hearing their little prayers and tucking them in for the night. I made the hour so pleasant for them that they looked forward to it during the day and made their "good night, sleep tight" a matter of course.

A very pretty idea came under my observation during the past winter, which could be utilized in a less expensive and elaborate way by little things from the five and ten cent store. A young girl in our hospital was operated upon for appendicitis and during her convalescence she was presented with "a pill box," which proved to be a large hat box, labeled "Take one pill every hour." The box was filled with packages tied in silk paper with dainty ribbons, and each package contained some surprise in the way of dainty little gifts. The box contained fifteen pellets and numbered many beautiful gifts.

There is one thing to be borne in mind in our little games with the children—we must enter into them ourselves and be as much a part of them as the child himself, or we cannot keep our interest and the child is quick to feel that we are making an effort and the game loses its reality. Much has been said about a nurse finding her practical work not as idealistic as she had anticipated, but I must be counted among the sentimental ones, who still hug the old ideas, believing that we must love our work or we cannot succeed and that remuneration must be counted as nothing as compared to the pleasure we find in doing good.

THE REPORT OF MISS ALICE ISAACSON, OF CEDAR RAPIDS, CHAIRMAN OF THE LEGISLATIVE COMMITTEE

was then read and was well received. This report was read by Miss Bristol, of Des Moines:

Madam President and Nurses:

Your legislative committee begs leave to report that the State registration of graduate nurses has been secured in Iowa, but our law in certain respects is an innovation; not that we sought for, nor desired originality in this addition to our code, but because it was impossible, owing to the position taken by our assembly, to duplicate the law in other States in the question of an examining board.

We began our work on the day following the election of last November and as soon as we could secure a list of the newly elected members of the senate and house, we wrote to all nurses whose addresses we could secure, enclosing a copy of the bill and requesting that they interview personally the senators and representatives from their district. Just how much of this personal work was done we have been unable to ascertain, but in our later work in the legislature many men told us of their familiarity with the bill through these personal interviews with their local nurses. One gentleman told us that a nurse, now resident in North Dakota, had written him soliciting his interest and support in the campaign. This work by the nurses at large greatly facilitated the work which followed later in Des Moines.

One of the members of your committee wrote a letter for publication, outlining the object and purposes of the bill. This was published in fourteen leading dailies of the State prior to the opening of the session. Our work in Des Moines began the second week of the session. Dr. Henry Young, of Calhoun, assumed the responsibility of our interests in the senate and Dr. J. Fred Clarke, of Fairfield, in the house. The bill was introduced almost simultaneously in both houses and referred to their committees on public health, but for various reasons it moved much faster in the senate.

With the text of the original bill you are all familiar. It was built along orthodox lines according to the creed of the National Association. Your committee was on the ground "en force," interviewing the members, "lobbying" in other words, and we found them to be "many men of many minds," except that they were agreed upon one point—their unalterable opposition to the creation of another independent board. Iowa has for years been overwhelmed with boards, some very essential, others of doubtful utility, and every legislature within the last few years has been flooded with bills asking for the appointment of still other boards until a wave of "retrenchment and reform" has struck the assembly and, as one man, they oppose any bill having for its object the appointment of a new board, even though it be entirely self-supporting. Had we persisted in pushing this first bill we would have met with certain defeat because of this one point and withdrawal was out of the question; the public health committee were determined to put some kind of a bill on the floor, and they would have amended the original, putting us under the board of medical examiners without representation.

Believing it would have been unreasonable to have jeopardized the nursing interests of the State by useless persistence in this point, we drafted our bill, asking that our board might be composed of both nurses and physicians, the latter to be members of the State board of medical examiners, and the entire board to be auxiliary to the State board of health. This substituted bill, after much unexpected opposition, and many struggles to retain its identity, was finally passed by the senate February 19, with no dissenting votes, but with an amendment that destroyed one purpose of the bill. The examination clause was stricken out, making it an entirely inconsistent measure. This senate bill was messaged over to the house and reported back to the house committee, and in this committee the examination clause was re-inserted; and after numerous unexpected delays, on March 7, the bill passed the house with seventeen dissenting votes, going back to the senate for concurrence March 8. This concurrence was secured without opposition, the senator who had made the original amendment not being present. Governor Cummins signed the bill a few days later. The publication clause was stricken out somewhere in the course of its progress, so the law does not go into effect until July 4. The first meeting of the examining board will be held in July, at which time all nurses resident in the State are expected to register.

Length of time does not permit a detailed report of the various forms of opposition which beset us. Nor do we think it wise to place the same on record. Our relations toward each other and toward the medical fraternity must be most harmonious if we expect as a body, and as individuals, to maintain the dignity and honor of our profession. Our new law secures for us uniformity of training. Let it also be the means of establishing more uniformity and loyalty of purpose, believing that we are all working for the common good, which end will be most readily achieved by faithful loyalty to highest ideals.

We are under great obligation to the Misses Baker, Beattle and Balcom, who left their work at a very busy time and came down to Des Moines on their own expense to aid in the struggle, and also to the nurses throughout the State, who so ably supported us.

The bill as passed leaves much to be desired. We do not appoint our own nurses; our curriculum is faulty, and many other points may be criticised, but as we have already stated in the *Journal*, "We do not make the law, and to a great extent it is made by the laity, who really think their knowledge of nursing affairs is at least equal to our own."

At any rate we have secured a foothold, and future legislative committees can secure amendments and reforms as the need for the same is demonstrated, and it is "for us" to see that the board of health is quietly and tactfully educated to an appreciation of the needs of Iowa training schools. Dr. Lewis A. Thomas, its secretary, assures us of courteous treatment and co-operation at their hands, and so long as he remains in office the nurses of Iowa will have a staunch and loyal "friend at court."

Your committee would make the following recommendations: That a vote of thanks be extended by the association to the following named gentlemen for their aid and support in securing this legislation, and that the secretary be authorized to put the same in writing and when so written to be conveyed to these gentlemen without delay: Dr. Henry Young, of Calhoun; Dr. E. W. Clarke, of Grinnell; Dr. J. A. McKlveen, of Chariton; Dr. De Armond, of Davenport; Dr. Marston, of Mason City; Dr. J. Fred Clarke, of Fairfield; Dr. Louis A. Thomas, of Des Moines, and Representative Van Houton, of Taylor County.

And also, that a rising vote of thanks be extended to our beloved president, Mrs. Campbell, for her most self-sacrificing, efficient and tireless labor throughout the strenuous campaign.

And further, that this association nominate ten nurses, resident in Iowa, not necessarily members of the association, but representative women of superior training, intelligence and tact, the list of which nominations so made to be submitted to the State board of health, through its secretary, Dr. Thomas, with the recommendation that said board of health may consider these names when making the appointments on the nurses' examining board for 1907.

Respectfully submitted,
ALICE E. ISAACSON, Chairman.

Miss Alice Isaacson, of Cedar Rapids, was elected delegate to the next National Convention, with Miss Luella Bristol, of Des Moines, as alternate. A committee of seven was voted upon, consisting of the four members of the Executive Committee present at the convention and three members appointed by the Chair, to prepare a list of names from which the State Board of Health is to appoint the nurses for the State Examining Board of Nurses. The convention was invited to visit the Ottumwa Hospital. This invitation was accepted and the nurses enjoyed a very pleasant hour at the hospital. Several of the physicians of the hospital staff were there to receive the nurses and show them through the hospital. Refreshments were served.

1:30 P.M.

The meeting was called to order by the president. Minutes of the last session were read and accepted. Reports of officers and the credential committee were read and approved. A hundred new members were elected into the association.

The following resolutions were adopted by the association after having been prepared by the committee named for this purpose, the members of which committee are attached to the resolutions:

"Death having again claimed one of our members, Miss Amy Cavenaugh, graduated from University Hospital, Iowa City, Be it resolved, That we, the members of the I. S. A. of G. N., express our sympathy to her bereaved family and that this resolution be recorded on the minutes.

"Resolved, That we, as an association, express our thanks to the committee on legislation for their faithful, conscientious work and untiring efforts which have been so successful.

"Resolved, That we, the members of the I. S. A. of G. N. use and educate the public to the use of the term 'Registered Nurse.'

"Resolved, That to our hostesses, the nurses of the local association, and the people of Ottumwa, we tender our full appreciation for their warm welcome, hearty greetings and generous entertainment.

"Respectfully submitted
C. C. KEELER, Burlington.
LUELLA BRISTOL, Des Moines.
N. E. SMITH, Clinton."

According to the laws of the State the nurses are allowed two members on the board which examines applicants for registration as trained nurses, the law requiring that the State association furnish the names of twenty members, from which list the two members of the registration board may be chosen. The list of twenty selected by the committee was approved by the association, and the secretary was instructed to forward the same to Dr. Louis Thomas, Secretary of the Iowa State Board of Health.

OFFICERS ELECTED.

President—Miss Alice Slaughter, Ottumwa.

First Vice-President—Miss M. E. Smith, Clinton.

Second Vice-President—Miss Jane Garrod, Davenport.

Secretary—Mrs. Ida C. Neff, Waterloo.

Treasurer—Mrs. Dora Metcalf, Cedar Rapids.

Auditor—Miss Maude Sherrick, Ottumwa.

CHAIRMEN OF COMMITTEES.

Legislative—Miss Lillian Clark, Burlington.

Publication—Miss Holnagel, Dubuque.

Finance—Miss Maxwell, Sioux City.

Credentials—Miss Lillian Alden, Mason City.

Constitution—Miss Carrie Lindholm, Des Moines.

The meeting of the nurses next year will be held in Sioux City, according to the action taken during the business session. There is usually a strong competition among the delegates from the various cities throughout the State in the effort to secure the convention, but this year Sioux City submitted such a strong and hearty invitation to the nurses to come there for the next meeting that no opposition was made and it was the unanimous vote of the convention to meet there next year, June 4 and 5. The invitation sent from Sioux City was endorsed by the mayor of the city and the president of the Commercial Club.

BANQUET.

The social side of the nurse's convention came to a close with a grand banquet at the Ballingall Hotel at which about fifty nurses were entertained. The nurses gathered early in the evening in the parlors of the hotel and promptly at 8:30 o'clock the Ottumwa Harp Orchestra played, filed into the dining room and took their places. The procession was headed by Mrs. Campbell and Miss Slaughter, the retiring and incoming presidents.

The tables were beautifully decorated with asparagus ferns and carnations. The Ottumwa Harp Orchestra played throughout the evening, their selections being well received. The following excellent menu was served.

Fruit Cocktail

Cream of Asparagus

Radishes Salted Almonds Olives

Planked White Fish
Parisienne Potatoes

Creme de Menthe Punch

Fried Spring Chicken
New Potatoes in Cream
Asparagus Tips on Toast

Lettuce and Tomato Salad

Wafers

Strawberry Short Cake with Ice Cream
Coffee Bon Bons

THE POST-PRANDIAL PROGRAM.

Miss Trotter presided over the banquet as toast-mistress. She introduced the various toasts and the speakers and made pleasing comments on each of the speeches given. The first was "Babies, Young and Old," given by Miss Smith, of Clinton, in the absence of Miss Jones, of Des Moines. Miss Smith's response was brief and brilliant. Her few words were well chosen. She spoke of the caring of babies as being the most pleasing and interesting part of a nurse's work, and in closing voted a toast to "babies, both young and old."

Mrs. J. Collins Murray then responded to "Improving Opportunities." She spoke more at length. She compared the lives of the nurses to the weaving of a great web and urged the importance of weaving strong individual threads into the work. She dwelt at length upon the importance of paying attention to the little everyday affairs of a nurse's life, saying that it is every nurse's duty to take advantage of every opportunity offered, no matter how insignificant.

The toast of Miss Zichy, of Fairfield, "Sometimes It's Amusing," created considerable laughter. It was mainly a recital of humorous incidents that had befallen her as a nurse both while on probation and after having graduated. Miss Zichy told a funny story of a farmer that thought "a thing once sterilized was forever sterilized, no matter what happened to it." That drew a laugh from all present. She dealt with the different types of humanity with which the average nurse comes in contact, and related many anecdotes showing the different lights in which nurses are held by different people. Her remarks showed that she had had a varied experience in her chosen work and was well qualified to talk on the subject.

Mrs. Bowen, of Centerville, in her response to "The Physician as We See Him," spoke concisely and directly to the point. Mrs. Bowen was a nurse before becoming a physician's wife. She spoke of the hardships of the doctor, his necessitated loss of sleep and of meals, and of the place he occupies with reference to the nurses' lives. "The doctors make the best of husbands," she said in closing.

In speaking on "The Value of Silence" Miss Anna Goodale, of Cedar Rapids, compared silence with the unknown quantity in an algebraic problem. "It has positive and negative values," she said. "Silence may be a virtue and it may be a vice." Miss Goodale caused considerable comment when she told a story of a college professor who said to his class, "If you pupils will only keep silent when I am talking you won't be fools; if you don't you will." She told another funny story of a boy who said in prayer, "Oh Lord, keep our mouths shut when we are riled." In closing Miss Goodale urged that the boy's prayer be taken as a motto by the nurses.

The response to "That Reminds Me," made by Miss Beattle, of Iowa City, was probably the most entertaining toast of the evening. Miss Beattle is remarkably well acquainted with all phases of the nurses' work, as her speech showed. She started out by telling the story of the little boy much given to exaggeration who was sent to the bedroom to stay until the Lord would forgive him for telling his mother that a big dog in the neighborhood was a lion. The lad rushed out of the room almost immediately and said, "Oh, that's all right, mamma, the Lord told me, 'never mind, Johnny, that dog used to fool me a lot himself.'"

Miss Beattle gave a beautiful retrospective address, treating of nurses' work in general and its different phases. She dwelt at length on her life while in the training class, showing the younger nurses present how much they might help those entering the training school by simple kindness and courtesies. Her remarks were interspersed with a number of amusing incidents.

Much credit is due Miss Blanche Bowker for the business management which has characterized the convention. To her also credit is mainly due for the able business management of the meeting, most of the financial questions having been solved through her handling.

INCORPORATION TO BE EFFECTED.

The matter of incorporation of the nurses which was taken up during the first day of the convention was disposed of by placing it in the hands of E. G. Moon, of Ottumwa. He is instructed to take the necessary action providing for incorporation under the laws of the State. This action is taken for the purpose of strengthening the association.

FIRST MEETING OF A MEDICAL ASSOCIATION IN AINTAB, TURKEY.

By Miss Frances J. Dyer,

Boston, Mass.

Kipling asserts that "a man is a fool who attempts to hustle the East," but whoever has travelled there will admit the urgent need of at least trying to "hustle"

Orientals into a sense of the appalling loss of human life resulting from their ignorance of medical science. However advanced in other departments of learning their backwardness in this particular is almost incredible. Hence the proposition to hold a medical convention in the heart of Turkey, the last week of July, marks an era in the world's progress. Of course the delegates will be the men who are working there as missionary physicians, for they alone are qualified to handle the important topics to be discussed. One exception will be made in favor of Dr. Altounian, of Aleppo, who is regarded as a leading member of the profession in Turkey. The native practitioner knows nothing whatever of surgery. His methods of treating disease are crude and cruel. His quackery spreads contagion and frequently causes death. But native doctors will be welcomed to the public sessions, some of them taking the form of illustrated lectures on practical bacteriology and pathology,

The delegates will be few in number and come from points as far apart as Van and Constantinople, a distance of about 800 miles. Among them will be two Germans, Drs. Vischer, of Oorfa, and Hula, of Marash. Dr. Piper, of Aleppo, who is connected with the Presbyterian mission to the Jews, and representatives from English stations at Beirut and Smyrna will also be in attendance. The largest contingent, however, will be the medical staff of the American Board, which is practically the only missionary force at work in the Turkish Empire north of Syria. To them is due the honor of conceiving and planning this July convention. The difficulties in adjusting such commonplace matters as transportation and entertainment would daunt men of less courage and gift of initiative. Rapid transit and first-class hotels are not features of that part of the world.

The topics to be discussed cover a wide field. Among them may be mentioned the following: Some acute diseases, as cholera, typhus, pneumonia, malaria; The need of native trained nurses; Relation of the medical missionary to the native physician: Cataract and its operations: X-ray work: Scope of medical missions in promoting municipal sanitation and personal hygiene: Hospital buildings and their plans. The mornings will be reserved for demonstrative clinics, operations and laboratory methods. The cool of the morning and evening will be given to rest and recreation, such as basket ball or, if there is a desire, football, tennis, horseback excursions, etc. On Sunday several of the doctors, all of whom are Christian men, will preach in Aintab's three big churches.

Viewed in all its relations this forthcoming convention is an epoch in the land ruled by what Gladstone termed "the unspeakable Turk."

BUFFALO NURSES' ASSOCIATION.

The annual meeting of the Buffalo Nurses' Association was held the third of June, at the Women's Union. Reports of the year's work were given by the president, Mary Jayne Cole; by the corresponding secretary, Dr. Jeannette Oliver Prescott; by the chairman of the program committee, Mrs. Harriet Storck, and by the treasurer, Mrs. Gertrude Boyd.

The latter report showed balances as follows:

Endowment Fund	$2636.03
Sick Benefit Fund	486.39
General Fund	141.69
Total	$3264.11

Miss Margaret Kamerer was elected a delegate to the Rochester Convention of the Western Federation of Women's Clubs. Mrs. Jennie Anderson was elected an alternate.

Refreshments were served by Miss Helen Collins and Mrs. John L. Brodie.

The following officers were elected for the ensuing year: President, Mrs. Harriet D. Storck; first vice-president, Miss Nellie Davis; second vice-president, Miss Rachel Ten Eyck; recording secretary, Miss Mary Swartz; corresponding secretary and treasurer, Mrs. Gertrude Weaver Boyd; N. Y. State Federation secretary, Mrs. F. Mann Brodie; Western N. Y. State Federation secretary, Miss Margaret Kamerer; trustee, Miss Sylveen V. Nye; directors, Dr. Jeanette O. Prescott, Miss Lucy A. Thompson, Miss Elizabeth Owen and Miss Anna Crotty.

CORRESPONDENCE.

SKETCH FROM THE NURSING FIELD OF TEXAS.

Editor of the Gazette:

THERE is a growing tendency in this part of Texas to annex all the material coming here from the North, East, South and West, providing it is good; so it is with the nursing profession. The southern girl does not take kindly to the long hours, poor food and surroundings offered her in a hospital, or to the strenuous life of a nurse. On the other hand, a northern girl does not take kindly to the excessive heat and indolent ways of the southern climate. However, the principle infused into the one who wrote the old hymn, "There's a wideness in God's mercy like the wideness of the sea," seemed to hit and even up the conditions, and to send a chosen few into the fields of labor that have the courage to do and dare; and it is well that it is so. The nurse who comes south with the idea of staying and then finds that she is unprepared for either the climate or the people, usually goes back to her home with a wrong impression of the whole country. Consequently we have a constantly changing class of nurses that in some ways do not recommend themselves to a people who are accustomed to the old mammie's nursing.

The physicians are about the best friends that the graduate nurse finds; and when I read some of the articles written by nurses, as a kind of crusade against doctors managing the training schools, it sends a chill through my whole system. The school I have the honor to have graduated from was the product of a very wise doctor, and it stands to-day as a memory to him and one that he would be proud of were he living now. What could nurses have done for Bellevue, years ago, if it had not been for the doctors? And yet graduates of that school are foremost in trying to run schools without them! To be sure we all realize that there are drones in the medical profession; so there are in the nursing world, and, strange as it may sound, some of the drones are very prominent.

Down here the nurses are not getting excited over the return to a two-years' course, for that is about what all the schools have with the exception of one or two. While I think a three-years' course none too long, providing all other things are equal, namely, eight hours labor, good food and a good home, yet I believe that two years is long enough for any really clever woman to have to work for a school which puts its nurses to sleep in wards of eight or nine beds, gives them no room for their clothes and makes a dozen or more use the same bath room. When one has balanced up the course of the ordinary training school, with its few lectures, uncertain classes and long hours, the training amounts to about this:

Twelve to fourteen hours' work daily.

Two weeks vacation (if agreeable to the work of the hospital).

If ill, to make up time so lost.

About fifty-two lectures on subjects they don't even understand. Classes about the same.

Ward work and special duty.

I know of one school where the nurses are not allowed to leave the hospital after 7 P.M. They are not allowed even to attend a matinee in the afternoon, much less an evening theatre. When they go out they have to report in person, as they leave and as they return—and all in this country where we are supposed to be free! I for one cannot see why women enter such places—why women from the Houses of Correction are not employed for such institutions. And these are, or, rather, are trying to be, schools of learning.

Texas has very many sanitariums for the benefit of those who own them, and which are money making institutions, and each one has a small training school attached. Many of their nurses are far better prepared for real nursing on coming from these schools than those who graduate from the hospitals that have the largest schools in this part of the Southwest.

There is plenty of room here for nurses who can make up their minds to stay and to be prepared for excessive heat. I am convinced that a nurse who can live one year in this climate can live all her life here. And it is a glorious country—flowers and fruits in abundance and living expenses comparatively small, because only a few weeks in the year does one need fires, and then only for part of the day. I can most heartily urge any nurse who wants to do private nursing to come here and be satisfied to live as the people live, and she will find the most generous-hearted, hospitable people in the world. They simply accept you for your qualities, not for your rank or your money. Yours very truly,

JENNIE S. COTTLE,
Houston, Tex.

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

Miss Minnie Goodnow, Milwaukee County Hospital.

To Remove Grease from Broth.—Do not think that it is necessary to have blotting paper to remove grease from broth. A fresh, clean roll of toilet paper is much better, and is always obtainable. Tear it in strips half the width of the roll, and run it slowly over the top of the broth; every tiny particle of grease will be removed. Clean newspaper can also be used in an emergency.

The Oil Rub For Children.—Do not use olive oil for rubbing ill-nourished children; it is practically impossible to obtain genuine olive oil, and that which is ordinarily so-called is not readily absorbed by the skin. Try instead cocoanut oil or benzoinated lard; either of these is soaked up very quickly by the skin with a minimum amount of rubbing, and acts as a real food.

To Give Castor Oil.—Castor oil may be disguised absolutely by a lemon-and-soda mixture made as follows: Make about two ounces of very strong lemonade; put the oil carefully into the centre of it; when ready to give, stir in very thoroughly a quarter of a teaspoonful of baking soda; the effervescence covers up the taste entirely, and many patients cannot distinguish the fact that it is an oily substance which is being taken. Any one who has once given castor oil by this method will never go back to the old ways.

Florence Baugh Downing, in the *Nurses' Journal of the Pacific Coast.*

To Bathe the Eyes.—Tired eyes are refreshed by bathing them in warm salt-water.

Hand Lotion.—One ounce of glycerine, three ounces of alcohol, and four ounces of water make an extremely good hand lotion.

Egg Coffee.—A cup of coffee may be made very nourishing by adding an egg. Beat the egg well, add the cream and sugar, and stir the hot coffee in gradually with a silver fork.

To Clean Deep Flower-Vases.—Mix one tablespoonful of coarse salt and one gill of vinegar. Pour into the vase and let it stand for a while. Shake well and rinse with clean water.

To Clean the Scalp.—A successful and sure method of cleaning dirty heads is to soak the hair with oil of sassafras and cover with a waterproof cap. At the end of eight or nine hours comb the hair with a small comb and shampoo thoroughly.

To Prepare Hot Fomentations.—Instead of wringing fomentations out of boiling water a good method is to steam them in an ordinary potato-steamer over a saucepan of boiling water. If requiring frequent changing, one or more can be steamed together and kept hot on the fire.

Mustard Poultices.—Mustard poultices are made of one part mustard and seven parts flour. Mustard plasters are made of one part mustard and two parts flour. If white of egg, unbeaten, is used for moistening instead of water or vinegar, there is very little danger of blistering the skin.

Comfortable Clothing for Rheumatic Cases.—In cases of rheumatic gout, where patients are able to be up and dressed, it saves much exertion and pain to have petticoats and skirts fastened from waist to hem, the petticoat to fasten in front, the skirt to fasten down the side. The bodice is made in two pieces, fastening down the front and back. This method saves the exertion of getting arms that are very painful through the armholes.

Summary of the Especial Points in Nursing a Case of Typhoid Fever.—1. Do not pile on bed-clothes. A sheet is quite sufficient protection from cold.

2. From the beginning of the case take precautions against bed-sores.
3. Keep the patient's teeth, nose, and mouth clean with a disinfectant.
4. Remove all soiled bed-linen at once, and disinfect them.
5. Disinfect the fæces and the urine directly they are passed. Let them be exposed to the action of the disinfectant at least half an hour before disposal.
6. Alter the position of the patient in the bed from time to time, so that too much pressure be not exerted on one part of his body.
7. It is not necessary to wake the patient up always for his food if he is sleeping. If he is in a state of stupor his food must be given him.
8. If there be signs of hæmorrhage in the intestine before the doctor comes
    - (*a*) Stop all food;
    - (*b*) Keep the patient absolutely at rest;
    - (*c*) Apply an ice-bag to the right iliac region.
9. Report at once—
    - (*a*) If any curds found in the stools;
    - (*b*) If any pain in the abdomen;
    - (*c*) If any sudden rise or fall of temperature.
    - (*d*) If any hæmorrhage.
10. Always wash your hands with some disinfectant after attending to the patient, and before taking your own meals.
11. Do not take your meals in the sick-room.
12. Keep all flies away from the patient.
13. Never yield to the patient's hunger and give him more than he is ordered.
14. The patient should never be left alone.—*The Hospital.*

THE

DIETETIC AND HYGIENIC GAZETTE

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ALICE IN A MEDICAL WONDERLAND: A SATIRE.

(With apologies to Lewis Carroll.)

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Brooklyn, N. Y.

"These things are in the future": Sophocles-Antigone.

Many years ago Alice visited the Wonderland of the White Rabbit, the Mock Turtle, the Hatter and the March Hare, and the story of her weird adventures in that very strange land has given our children and ourselves many a happy moment. But since those eventful days Alice has grown up and become a young woman. Moreover, she has completed a course in medicine and is now a practitioner of the art.

Strange to say, Alice, in her adult years, has not found the rabbit hole which, in the story, separates the ordinary mortal from the realm of Wonderland, any less penetrable than she did as a child. For one morning, not long ago, she arose and knew at once that during the night she had re-entered Wonderland and was again in the realm of the impossible.

But this was a Wonderland of Medicine, and stranger by far were the things she found therein than any which she had observed as a child in the land of the King and Queen of Hearts.

"I believe," said the rose to the lily in the parable, "that our gardener is immortal. I have watched him from day to day since I bloomed, and I see no change in him. The tulip who died yesterday told me the same thing." Alice's view of medicine before she re-visited Wonderland was like that of the lily's limited view of the gardener—it was a glorious art and science in the abstract, but after she had seen a medical Wonderland and had had the acuity of her intellectual vision sharpened, the art and science which, before, she had been familiar with, no longer loomed great and glorious.

What did Alice discover in her new journey?

In the first place she found no "preposterously eminent" physicians. There was a leveling up of talent which precluded anything like the majestic isolation of certain extraordinary worthies of abnormal and atypical attainments. To put it another way, each and every practitioner was just what he ought to have been.

Alice observed no eccentricities of mind, person or manner on the part of these ideal practitioners. All were well-bred; none wore a paint-brush on his chin; the linen of none was ever soiled, and—we speak truly—Alice observed that the professional finger-nails were invariably beyond reproach. The doctor's chirography was always legible and all the practitioners had large families. Moreover, all were prosperous, and, what may seem strange, none claimed to be overworked.

None of the neurologists was observed by Alice to be at all odd, and she failed absolutely to find a single surgeon who believed that dyspepsia, cholelithiasis and appendicitis were almost invariably surgical conditions. Alice found the gynecologists a unit in declaring that a very large proportion of the lacerations of the parturient canal did not require late repair. She found that the general practitioners who were engaged in obstetric work were actually fastidious in point of surgical cleanliness, and that the charge of Jacobi[1] that sepsis is present to-day as it was forty years ago, but the death returns are falsified as nephritis, peritonitis, pneumonia, and so forth, had no justification in Wonderland.

The education of these men had produced, in the words of Bayard Holmes, fewer of laboratory men than diagnosticians, fewer of diagnosticians than doctors, and fewer of doctors than fellowmen. They were not like the clergymen who have their theology with them at all times. They were men first and doctors afterward. The human quality was not strained. What Cardinal Newman, in his University sermon, "Personal Influence," said of men commonly held in high estimation—"they are greatest at a distance, they become small as they are approached"—could not be said of these men.

Eminence and fame, Alice found, were determined solely by one's cures. The use of this term cure, by the way, either as a verb or a noun, was not held to be unscientific, and for very good reason, as will appear. Alice remembered that in her conventional environment everything else but cures determined celebrity in medicine. The practitioners of Wonderland actually influenced the clinical course of many diseases by the employment of an efficient therapeusis to which drugs bore no relation whatever. Moreover, they had learned that their abjuration of drugs had not lessened the lucrativeness of their practice, but rather had led to its augmentation. Alice recalled that the same fact had been demonstrated in her own environment by certain irregular practitioners.

Alice found the literature of the profession to be of a very high order, yet singularly free from pedanticism and abstruseness. Moreover, it was surprisingly meagre in quantity, judged by the standard to which she had been accustomed. Upon inquiry, she learned that medical Wonderland was districted and that a system of literary clearing houses was in operation. The best literature was issued in journal form by boards of authorized editors. There was no commercial exploitation whatever. Such matter as was not published was carefully indexed and filed and abstracts prepared, which were bulletined to the profession and were readily available if called for. The result was that the matter published was actually read and assimilated by the whole profession and considerable distinction awaited successful authors. Of course, if one desired to publish matter at one's own expense there was no reason why one should or could not, but nearly all were content to abide by the judgment of the editorial boards. Books were brought out in the usual way.

An editorial board was composed of a certain number of men, all of whom had been at least fifteen years in practice. The publication of a given paper was decided upon by a majority vote, the names of the authors being unknown to the board. Elections took place at intervals of five years, the entire professional body participating in the suffrage, hence there was no permanent literary hierarchy. Papers which had been merely filled by one board could be resubmitted to a successive board.

One result of this system, aside from great scientific progress, was that there had been a progressive lessening of the amount of literary chaff offered for publication, the labors of the editorial boards thus not being unduly arduous. Of course, the mere fact of there being an utter absence of commercial exploitation, either of the journals or of the profession, operated directly as a deterring factor upon the proffering of such chaff. The material produced was wholly wheat.

As regards hospital visitation, there were no permanent attendants. The term of service was ten years and the office of attending physician was an elective one.[2] As the profession was not overcrowded, a goodly proportion enjoyed hospital service during their lifetimes. One must have been in practice at least ten years to be eligible for a nomination in the district in which one resided, of which five years must have been spent as an assistant visiting, itself an elective position. More than one appointment could not be held, but it was customary to effect exchanges of services. Thus many more men than under a conventional system became potential and working units upon whom society made certain natural demands and conferred certain distinguished privileges. No one was put to the necessity of wresting this and everything else from society and acquiring arteriosclerosis in the course of the tragic struggle, but all stood a reasonable chance of realizing their ambitions. All reputable physicians were permitted to attend private hospital patients.

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[1] *N. Y. State J. of Med.*, April, '07.

[2] This system tended to make whatever subserviency there may have been to lay boards of directors relative rather than absolute.

We might spend much time on a recital of what Alice observed in connection with hospital affairs, but space forbids. That the hospitals were model institutions will, of course, be inferred. Alice found even the orderlies highly intelligent, humane and gentle-handed, and in no instance did she observe any evidence of alcoholism! Neither did they suggest stage-villains in appearance.

In the medical schools of Wonderland there was no teaching aristocracy permanently entrenched. Perhaps most honor was accorded to the incumbent of that professorial chair which combined the subjects of medical history, bibliography and ethics. Here the medical literature of fact was supplemented by the medical literature of force. Wonderland knew no medical literature of fancy, which constituted so large a part of Alice's store of so-called knowledge; imagination gave place to real efficiency, scientific fantasy to genuine accomplishment.

Regarding medical education in Wonderland, the examination system was rigidly excluded. That its influence was blighting and detrimental and its effects demoralizing was fully recognized. "To worry a man who wants to develop his mind with continual investigations of his memory is as senseless as periodically to test the lifting powers of a man who is learning the violin."[3] By the application of facts more than by their exhibition were estimates of attainments made.

The educational requirements for matriculation in the medical schools and the fees charged for tuition were not so high as to make it possible for only rich men and no John Hunters to pursue a course of medical training. Breeding, personality, benignity, earnestness of purpose and common sense were factors in the estimate of a candidate.

To revert again to those who did the teaching. Fifteen years in practice, of which five years had been spent in teaching, had to elapse before one could aspire to a professorial nomination. Such nominations were limited to adjuncts and assistants who had completed their probationary period of five years to the satisfaction of the profession which had elected them to the subordinate chairs. The term of service in a professorship was ten years.[4] The particular professorship to which a man might be elected was immaterial for two reasons: first, because the candidates were capable of filling any chair, and second, because no one man gave a full course. Hence the offering of poor material was inexcusable. Thus there might be a score or more of professors of surgery in a given college, each one scheduled for particular subjects in this field of medicine, the principle involved being a practical application or logical extension of that method exemplified in the systems of medicine and surgery by various authors, of which Alice recalled a number. The interest of the student naturally never flagged and he received the full benefit of that great factor in medical education, the influence of many minds and personalities. The effect of this system on the *morale* of the profession may be easily imagined. It reminded Alice somewhat of Edinburgh University's scheme of extra-mural professorships.

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[3] As a substitute, the system prevailing in Wonderland is suggested in Lauriston Shaw's Hunterian Oration for 1907, q. v.

[4] In this connection it is a pleasure to recall the election of an ophthalmologist of note to a chair in a great university in Pennsylvania by a kind of referendum vote in which the entire medical alumni body participated.

A universal system of continuous graduate study was in vogue which, Alice noted, bore much resemblance to that prevailing in Germany.[5] Physicians practicing in the remotest villages, as well as in the metropolis, shared in its advantages. Instruction was essentially free and the whole profession participated in the propaganda of culture.

The patients of the practitioners of Wonderland presented certain traits which impressed Alice considerably. For example, none made friends of his diseases and cultivated uncannily affectionate intimacies with them, like the spoiled (by the profession) neurasthenic with whom Alice had long been familiar, that unfortunate character who actually becomes sincerely attached to his ailments and furnishes such a large source of the fashionable practitioner's graft. What diseases they had were real, never professionally born, and unaffected in intensity according to the patient's wealth.

Many remarkable steps along the path of progress were constantly being taken, and less astonishment was excited thereby than if there had been a failure to take such steps. Medicine was not always "on the threshold of great achievements"—like a profession of Micawbers, waiting for something to turn up—and very rarely stepping over the said threshold, but was constantly achieving.

In place of the competitive, individualistic system, that system in which every member of the profession works almost solely for himself, there were real unity, communism, co-operation in the cause of science.

The idiotic schisms which divided Alice's professional house against itself, schisms which found their origins in the drug fetish, found no counterparts in the medical history of Wonderland. In a standard encyclopedic dictionary of medical terms which Alice consulted the word drug was defined as "a substance, simple or compound, natural or prepared, single or mixed with other substances, formerly employed in the treatment of diseases; an obsolete term; see medicine."

There were no works on materia medica postulated, *academically,* upon the principle that drug therapy carried no compensatory penalties, save as these might be sophistically denominated "untoward effects" or idiosyncratic phenomena, while at the same time, *practically,* cognizance was taken of the fact that such penalties were the rule and not the exception.

As a result of the foregoing conditions, no such abuses as those growing out of the patent medicine evil, as well as those attributable to the mystic and irregular schools of practice, such as Christian Science and osteopathy, had any existence, for there were no patent medicines and no irregular schools. For be it remembered that in Wonderland, medicine, in its therapeutic aspect, was a brilliant success and not the greviously dismal failure of Alice's world.[6] The sick found no occasion to invoke any freak systems, for they were cured by the regular physicians. The use of the term cure, therefore, was not considered unscientific, as Alice had always been taught, and Voltaire's definition of a physician—"An unfortunate gentleman who is expected to perform miracles daily"—could not be applied in Wonderland.

Material remedies were largely replaced by psychic measures in that large class of ailments which the vultures of mysticism exploited so profitably in Alice's habitual sphere.

The profession had no commercial tutors, representing the spirit of external influence which has attended medicine in all the ages, pilot-fish, as it were, or, more exactly, the profession's therapeutic pimps.

A remarkable trait in the older men, said to be universal, was that after they had achieved place, fame and fortune for themselves, they did not lose interest in the struggle of those less fortunately situated or endowed. This, Alice was told, was a most potent factor in insuring the practical realization of the best professional ideals.

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[5] *J. A. M. A.,* April 27, '07.

[6] "In a work on therapeutics there is little opportunity for originality, and anything very novel is likely to be more or less erratic."—*New York Med. J.,* May 25, '07.

The doctors of Wonderland were all endowed with the remarkable faculty of what might be called a just scientific perspective, that is to say, there was no blind following of authorities—the blind leading the blind. Because some great man said a certain thing it was not, forsooth and perforce, accepted as truth and handed down several generations before a final pricking of the bubble. Truth was as likely to be discovered in one quarter as another, wherever, in short, it might happen to be; it was valued for itself and its medium of transmission to society was a relatively negligible thing. Good was looked for in Nazareth as in the temple of the high priest.

What Alice had known as ultraconservatism flourished not in Wonderland and was rated in the code as unprofessional.[7] No atavistic exponent of a sneakingly dogmatic system would have dared to rise up and declare that system to be the common homestead of a universal medicine, the ancestral home of all the centuries of the healing art, in which all humanity had vested right by the entail of all the ages, and the foundation of which no man must disturb nor destroy in the pursuit of new discoveries. Such a one would have been cast into outer darkness.

Alice found that preventive medicine had had full leeway, so to speak, and glorious results had accrued. The infectious diseases were controlled by a sane prophylaxis. As to the diseases and injuries due to exposure to the elements, traumatism and nervous wear and tear, these were inevitably present, but a rational social and industrial system had reduced them to a minimum. So also with the disease conditions depending upon the quality and quantity of the people's food, drink and air, great results had been achieved. Tuberculosis was occasionally observed, cancer was but a memory. A Federal Bureau of Health, adequately officered, strongly financed, and fully safeguarded against domination on the part of political machines, constituted the government's contribution to preventive medicine. That great social curse—alcoholism—lifted not its hideous head from out the feculent morass of poverty, for the latter, more often cause than effect, prevailed not in the land, because of the sane social system. For, as alcohol is a product of chemical fermentation, so is alcoholism a product of that unwholesome social fermentation necessarily incidental to poverty.

Wonderland had long ago legislated drastically against the continued founding of privately endowed research institutes. It had been realized very early that they bore the same evil relation to science as did misdirected charity to poverty—the one pauperized professional as the other pauperized social initiative. They had produced some elegant exotics of science, had these institutes, but no perennials.[8] The threatened emasculation of medicine was thus averted. The genius that discovers or creates is not a hothouse product.

In Wonderland these institutes had produced only what might have been expected, and at last, like ferments which finally destroy themselves, driven by an aroused professional resentment of their barrenness to make an attempt in the way of a contribution which would be a sop to their *confrères*, the pedants controlling the best known of the institutes—because the most heavily endowed, there being no other reason for its prominence—conspired to launch a pronouncement which would temporarily, at least, keep them in receipt of their emoluments. It was their idea that this should savor of the Harveian in apparent import and be taken to mark an epoch in the progress of medical science. By virtue of much training and experience in the way of hypnotizing even the world of science into a belief in their competency, our clever *savans* found themselves, now at the last ditch, able once again, but for the last time, to hypnotize the profession. So was given to the world that greatest of scientific gold bricks—the doctrine of Equilibrism—which postulated that all the neuroses, psychoses and functional affections of the human organism were due always to some disturbance of somatic equilibrium. It was conceded that such disturbances might occasionally exist and yet no disorder ensue, but this did not invalidate the doctrine. Given a neurosis, say epilepsy, and one's task was to locate the offending asymmetry and correct it. Thus the elevation of the left testicle to the plane of the right had been followed in 95 per cent. of the institute's cases by a permanent cure of the epilepsy. Alterations of ears, tonsils and buttocks had occasioned speedy cures of hysteria and neurasthenia. Statistical studies were adduced to show the evil effects of unilateral surgery. Thus the bolder of the exponents of this new doctrine did not hesitate to point out its application even in certain organic conditions. It was argued that the removal of one mamma for carcinoma, the normal mamma being undisturbed, left the organism in a grossly unbalanced state, which contributed directly to the high percentage of recurrences.

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[7] Alice's profession was "always slow to accept even revealed truth." (Roswell Park.)

[8] THREE METHODS OF PROMOTING SCIENTIFIC DISCOVERY.—"The older method adopted by endowers and scientific societies," says *American Medicine* (May 28, '06), "was to offer prizes for manuscripts chronicling the discovery, their publication to be later and under the control of the prize-givers. The evils of this plan early became evident and as a consequence there is much competition now, among the prize-givers, not among the seekers, for contributions. What may be called the second method is that adopted by the Carnegie Institution, of grants to investigators, and this is a better plan; but it has already drawn upon itself the severe criticism of many scientific men. The most telling of these relates to the impossibility of any group of human beings finding out in what direction, and especially by what particular workers, discovery is to come. There is a strange waywardness and obstinacy in the law of discovery, which often makes the official and recognized investigation resultless. The real solution of the mystery so frequently comes by some unknown delver, who at first may even be sneered at by the official judges and leaders. The history of almost all great discoveries and progressive steps is that the recognized authorities ignored or scorned the great innovation and left the genuine discoverer to the inevitable and pathetic reward of his temerity. The third method is that adopted by Nobel: Reward the true discoverer and innovator as soon as the genuineness and value of his thought have been demonstrated."

For quite a remarkable period of time this lunacy prevailed to an astonishing extent on the part of a credulous profession. But the reaction finally came and our *savans* found themselves like so many rats in a burning ship far out on the ocean. The history of medicine in Wonderland contains no page more inspiring than that which recounts the storming of the —— Institute for Medical Research by a justly enraged army of doctors. It was a glorious spectacle. The buildings were wrecked and dismantled and the fellows dispersed. No attempts were ever made looking to a resuscitation of the corpse and "canned medicine" became a memory.

There were no venereal diseases in Wonderland, and therefore no Societies of Social and Moral Prophylaxis, for man, only theoretically a moral being, had actually become, in Wonderland, moral in his social relations. In Alice's sphere social relations were in abnormal adjustment and so her kind of men, although essentially moral,[9] found it easy to maintain their moral purity only by means of much artificial aid, so to speak. Here in Wonderland Immorality would be grossly abnormal, indeed *prima facie* evidence of insanity.

Theoretically, all the men of Alice's world were moral; practically, the conventional men were not moral. Those who actually practiced morality were divisible into five classes: the physically defective,[10] the mentally oblique, the esthetically trained, the spiritually exalted, and the occasional man, distinctly atypical, to whom immorality was all-uncleanness and impossible of actual perpetration. The code of the conventional man was the so-called eleventh command-ment: thou shalt not be found out. Most church officers were conventional men.

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[9] We are not the sin-cursed wretches taught by the old theology, totally depraved by nature—essentially wicked.

". . . any society which desires to found itself upon a high standard of character in its units should organize itself in such a fashion as to make it possible for all men and all women to maintain themselves in reasonable comfort by their industry, without selling their affections and their convictions."—G. B. Shaw.

Something more than education and religion is needed to insure virtue. A sane social system would contribute much to such a *desideratum*.

The profession of Wonderland took its color from the people. "As it is with the people so it is with the priest," says Isaiah, and the same is true of the physician.

[10] All vigorous men are not virtuous, nor all virtuous men vigorous."

The statistics of the above-mentioned societies, showing an astonishing prevalence of venereal disease, are sufficient justification of our strictures. These things are not as we would like them to be, but we are characterizing scientific facts and not smoking the pipe of fancy.

There were no specialists in Wonderland. In the first place all the practitioners were, as we have seen, thoroughly trained men in the broadest sense of the term. Secondly, they remained students throughout their lives and neglected no sort of professional culture. Were one to have practiced, exclusively, a so-called specialty, he would have been regarded as irregular, for much the same reason as Alice's profession condemned the exclusive practice of the homeopaths.

There were no medical snobs and prigs in Wonderland, no medical politicians, no dilettanti, and no medical experts in the sense in which Alice had known such gentry. Nor could the conditions in Alice's normal environment be compared at all favorably, as regards the scientific bent of the individual members of the profession, with the tendencies and traits of the practitioners of Wonderland. What Ohlmacher had written about the former had no application to the latter: ". . . because of the industrious quest of Ehrlich's hypothesis by workers in all parts of the civilized world during the last six or eight years, with the voluminous and increasingly complex literature, and the failure to obtain out of all this work an additional remedy for a single infectious disease, the work-a-day physician has lost interest in the theoretic controversies of biologic medicine . . ."[11]

Having gained some idea of the doctors of Wonderland the reader will not be surprised to learn that there were no private hospitals in that strange country. Alice knew that among her own *confrères* one could hardly be strictly honest and conduct one. For this very reason Wonderland had abjured such institutions. "The temptation may be great. The enterprise has imposed heavy financial obligations. It has not proved the success the surgeon had anticipated. The year has been a poor one; rooms are vacant and expenses are going on. A well-to-do patient seeks his advice. An operation is not necessary and, though at another time the surgeon would not himself have advised it, he finds it easy to do so now, and possibly justifies himself by the thought that many of his colleagues would do the same. Such a step once taken, a similar decision is reached the second time with fewer misgivings, and soon the policy of doing operations with insufficient indications may become his established practice. If not an operative case, the patient may be induced to submit to prolonged but unnecessary and even useless treatment. There is a subtle temptation here for every physician or surgeon whose eye is always on the almighty dollar; but it comes with increased force to one whose financial needs are great. His vision of right and wrong must be very clear and his ethical standards high not to be biased in such emergencies."[12]

The doctors of Wonderland were very jealous of their individual and collective interests and very watchful of the public health. They were far more adept in crushing evils and promptly beating to death abuses than they were in delivering themselves of conservative platitudes relative to such evils and abuses. They were entirely free from that ultrarefinement and extreme estheticism which so often deter professional gentlemen from incurring that incidental soiling of the hands and clothes, figuratively speaking, so often essential in the abatement of any sort of nuisance. As a rule, these things cannot be delegated to others and they certainly are disagreeable. So the conventional doctor ignores them. In Wonderland there was no second thought in these matters. To be convicted of dereliction was the greatest disgrace that could befall one, to throttle abuses until defunct the surest source of honor. There was no toleration of those specious arguments which recommend that abuses be left to themselves on the ground that they will probably cure themselves and that their perpetrators and wet-nurses must not be made martyrs of. As the blood of the martyrs was the seed of the Church, so was the sweat of those who zealously maintained the medical decencies of Wonderland the seed of the temple of science. These men had no two ways of regarding the question as to whether the symbol of science should be a temple or a stable. No Wonderland *Collier's* or *Ladies' Home Journal* was ever needed to discharge the profession's own obligations to society and to itself, and it was a far cry to the vanishing point of professional sanity. Medicine harbored no "captains of indolence."

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[11] *J. A. M. A.*, Feb. 16, '07.

[12] L. Emmett Holt, *J. A. M. A.*, March 9, '07.

The responsibility for such lay superstitions regarding disease as were prevalent were in no instance directly or indirectly traceable to the profession.

No one was offered up as a sacrifice upon the altar before which so much incense is burned to Lister. Operative asepsis was never a farce.

The doctor of Wonderland had no double standard in respect of his attitude toward the public and toward his *confrères*. He was not hypocritically orthodox "in meeting" and a liberal of liberals in his man to man relations, but maintained an honest intellectual balance at all times.

The sick poor were carefully guarded against the male or female philanthropists whose best credentials to a putative respectability were mediocrity, intellectual insignificance, and wealth. The laws of Wonderland were very explicit in their provisions against the fashionable fad of founding hospitals without fully adequate provisions for endowment and maintenance. Thus that sad spectacle of a financially crippled hospital, hobbling painfully through its institutional life, was never seen, and the vanity of Smith and Jones was gratified, and their "charity" publicly advertised, only when munificently sufficient as determined by State Boards of Charity acting in conjunction with specially accredited representatives of the State medical societies and of the particular municipal governments concerned.

Alice found that the practitioners were partially recompensed by the State for their services to the sick poor by exemption from taxation, which was at least a recognition of such services. There was also an old-age pension system in which superannuated physicians participated, their shares being somewhat larger than those of laymen for obvious reasons.

Alice ceased her investigations at this point and, re-entering the rabbit hole, soon found herself in the work-a-day world. Upon arriving at her office she found one patient and four detail men with samples and set orations awaiting her. Disposing of these she looked over the considerable mail which had accumulated in her absence, finding four personal letters, seventy-six circulars of proprietary firms, and a note from a former patient repudiating a bill and chiding her for her failure to cure an ailment which had since yielded to a pinch of osteopathy and a dash of Christian Science.

Alice wept.

115 Johnson St.

BIOGRAPHY.

There is properly no history, only biography.—Emerson.

The youth of a nation are the trustees of posterity. The history of heroes is the history of youth.—Lord Beaconsfield.

Biography is by nature the most universally profitable, universally pleasant, of all things; especially biography of distinguished individuals.—Carlyle.

No species of writing seems more worthy of cultivation than biography, since none can be more delightful or more useful. None can more certainly enchain the heart by irresistible interest, or more widely diffuse instruction to every diversity of condition.—Johnson.

THE PHYSIOLOGIC AND THERAPEUTIC VALUE OF HYDRIATIC MEASURES.

By ALFRED GORDON, M.D.,

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[Read by invitation before the South Branch of the Philadelphia County Medical Society, May 24, 1907.]

MATERIA Medica is almost daily getting enriched by new medications. Notwithstanding this fact, the usual hygienic principles represent the most useful means in many instances. Physical agents in a general way occupy a far superior place than ordinary medicaments. They are called physical, when reactions produced in the organism are the result of a display of common properties of matter, or otherwise of various forms of energy: heat, electricity, light.

The object of physical agents is to stimulate and bring into display the physiological properties of the living cells of the organism. They affect particularly the nerves, muscles and peripheral bloodvessels; through the nervous system they modify the circulation and the distribution of the blood, the respiration, and therefore the general nutrition.

Water belongs to these physical agents not as a substance, but by virtue of its temperature. Man being an animal with constant temperature is extremely sensitive to thermic agents. He reacts under the influence even of limited, partial applications, and consequently in an exaggerated manner when the applications are general.

When an anatomical element is brought into contact with a body whose temperature is different from its own it undergoes an excitation. The latter, being a physiological reaction, is the greater, the more pronounced or the more sudden is the mode of application. If, for example, a motor nerve being exposed is gradually and progressively made colder, the result will be its destruction, but there will be no reaction, viz., muscular contractions. When a stream of cold or hot air is directed suddenly on that nerve, immediately a muscular contraction will ensue. Contractility of protoplasma is produced by a temperature near or superior to that of the animal; it diminishes under a low temperature.

In applications made for therapeutic purposes the thermic agents impress mainly the sensory nerves of the skin. In this respect hydrotherapy presents a certain relation to a procedure called revulsion. It means in physiological language that it belongs to procedures of excitation of the surface (skin and mucous membrane), which is capable to produce via the nervous system localized or remote reflex reactions.

Beside this direct impression on the sensory nerves these agents bring or take also a certain amount of calories. To sum up the effects of the temperature of water one may say that they are: ***excitant or tonic*** and ***depressive or sedative.*** In a general way cold applications are tonic; moderately warm and prolonged applications are sedative and even depressive.

In a healthy man one can observe individual differences in response to thermic agents, viz., to cold or hot applications. These differences depend upon the state of the cutaneous circulation, of the more or less active perspiration and upon the impressionableness of the nervous system. Habit acquired from childhood should also be taken into consideration.

In diseased conditions these individual variations are still more marked. By means of special procedures the above variability can still be more modified: the so-called mixed or combined methods, mechanical stimulation, the alternate use of cold and hot applications change to a great extent the degree of excitation and of the subsequent reactions.

Let us consider first the effect of *cold applications.*

The use of cold water is the basis of hydrotherapy.

Locally the sensation of cold is a specific sensation. The physiologists admit that it is different from other forms of cutaneous sensibility: the skin, for example, may be sensitive to cold and not sensitive to touch and pain. The impression of cold is transmitted to the brain through the spinal cord.

Intense cold produces a numbness. Brief applications of water with a low temperature produces an increase of sensibility. At the periphery below the level of application the arteries are contracted, their lumen may be reduced to a half or a quarter of its size or disappear completely; the local temperature is decreased. Above this level the blood finds an obstacle, its pressure increases, the collateral circulation is more active. Besides the bloodvessels the vaso-motor nerves are equally influenced by cold, and therefore the phenomena observed are the result of both important elements. The latter, according to the latest investigations, plays the most important rôle. The mechanism is considered as a reflex act.

What are the remote effects of cold applications?

The first that draw special attention are the modifications in the distribution of the blood.

Each local application of cold, as well as any mechanical irritation—and you know they are often combined—provoke phenomena at a distance. Experiments have shown that cold applied to one hand diminishes the size of the other hand, and this is due to the variation in the distribution of blood. When, therefore, the application is general instead of being local, there is a decided disorder in the distribution of blood in the central portion, as well as at the periphery of the body. In a cold bath or shower the peripheral bloodvessels are energetically contracted. The vaso-motor system through a reflex act resists the loss of bodily heat. At the same time the internal organs become congested through vaso-dilatation. The blood pressure and the rapidity of the circulation is augmented. This is accompanied by a rapid heart beat.

Respiration is not modified by partial applications. Extensive applications produce irregular breathing.

The bodily temperature presents a special interest. In the course of a cold shower the temperature of the skin is lowered, in the axilla it is raised, in the rectum it is invariable. The same is observed in sea bathing. Generally speaking, the central temperature is either stationary or elevated; prolonged application lowers the temperature.

The after effect of cold application, or so-called hydrotherapeutic reaction, is as follows: The bloodvessels begin to relax and this is done slowly and gradually. The rapidity of the pulse diminishes and the beats remain slow for a long time. The irregularity of respiration gradually disappears. The central temperature is gradually lowered to become normal later. Perspiration is diminished, but the quantity of urine is increased. The nervous system sustains a shock, the result of which is a tonic reaction.

Hot applications. The effect of hot applications presents certain analogies as well as differences with those of cold.

The analogy lies in the impression made on the sensory surface of the skin similar to the process of revulsion.

The differences are the following:

While the vaso-constriction produced by cold increases and has a tendency to last, that which is caused by heat is very transitory and immediately followed by vaso-dilatation, which persists during the entire application. Brief and localized applications do not modify the circulation and the calorification. The cerebral vessels begin to relax, the circulation becomes slow, the veins are congested. Soon the cerebral hyperemia is followed by a marked anemia. The same phenomena take place in the inner organs. This explains the malaise and general weakness and syncope which occur in prolonged hot applications.

The pulse at the beginning diminishes in frequency, but later becomes accelerated. Perspiration is increased. Respiration is precipitated. The temperature also increased.

Contrary to the effect of cold that of heat has a sedative and depressant effect on the nervous system. When the application is mild, the nervous irritability is diminished. When the procedure is energetic, a fatigue of the neuro-muscular system, with a tendency to sleep, will ensue.

PROCEDURES.

They may be simple or combined.

Douche. The temperature at the begining should not be too low and the water must be directed under a feeble pressure. The duration of the douche at the beginning is to be of 12 to 15 seconds, later of 30 to 60 seconds. The longest are of 2 minutes.

The douche may be in the form of a *jet, fan* or *spray,* according as the stream of water is thrown directly upon the body in the form of a fan or through a perforated nozzle.

A douche which consists of alternate streams of water at high and low temperatures constitute the so-called "Scotch douche."

A douche may be used in the form of a *shower bath,* in which water passing through a number of small openings falls vertically upon the body. When the shower bath is so arranged that the water is directed from below upwards it is called "ascending spray."

Among all these varieties of douches the Scotch douche has the most pronounced stimulating effect, which is probably due to the contrast of the low and high temperature.

A good practical substitute for douches are the *effusions,* which consist of pouring water with some force upon the upper parts of the trunk and head: during this procedure the patient is advised to sit or stand in hot water of 90° F.

The *wet sheet* is also a hydrotherapeutic procedure. A large sheet is saturated with cold water and wrung out. The patient wets first his face and chest and then the sheet is thrown over the shoulder and he envelops himself with it. He himself rubs the front and the attendant the back. The friction is continued for 5 minutes until the body gets warm. Then, with a dry sheet, the body is rubbed again for a few minutes. When there is a tendency to headache, a cold compress is applied to the head during the friction. The effects of the wet sheet are identical to those of the douche but less intense. It can be utilized by individuals with a poor resistance.

The *pool* with stagnant water, which however can be renovated easily, is also a useful hydrotherapeutic appliance. A short immersion is followed by a sense of feeling well and a sedative effect; insomnia can be improved.

Baths may be taken cold from the beginning, or they are gradually made colder. In the first case certain precautions must be taken. The patient must be watched while in the tub and afterwards thoroughly dried and enveloped in a blanket until the peripheral heat has returned.

Sponge baths consist of pouring water over the shoulders, the head being protected with a cap.

Among other hydriatic measures may be mentioned foot and sitz baths, steam baths, hot-air baths and local compresses, but their therapeutic applications are too numerous to be described here.

The various procedures just described may present infinite modifications. I will refrain from entering into details as well as from describing many instruments and appliances invented for this purpose.

DISEASES IN WHICH HYDROTHERAPY IS INDICATED.

Time and space do not allow me to describe each individual disease in which hydrotherapy is indicated. I will confine myself to diseases of the Nervous System in which hydrotherapy is the most indicated.

Among the latter those of functional nature are considerably ameliorated by this procedure. Hysteria, Neurasthenia and Hypochondriasis cover almost the entire field. The Neurasthenics, with their continuous complaint of chronic fatigue and irritability frequently present sluggish circulation and digestion. In such cases cold water applied to the surface of the body will give excellent results. As soon as the neurasthenic awakes in the morning, when his fatigue is especially felt, an arrosion with cold water in the form of a shower bath or a sponging or a wet sheet—but all of very short duration—will stimulate his peripheral nervous system and through the latter also the central, bring into rapid display the sluggish circulation, make the bloodvessels contract and dilate alternately, bring a better supply of blood to the central nervous system. It is a common observation in treatment of asthenic conditions that short cold baths, showers and cold ablutions are generally followed by a tonic and refreshing action, by a sense of feeling well, by a certain need for muscular exercise, by a greater desire for intellectual work, and finally by an increase of appetite.

If these procedures are kept up twice a day and followed by good friction, the general treatment of Neurasthenia will find an excellent adjuvant in hydrotherapy. Of course, not all the procedures can be employed in every case. Some require only a cool sponging, some a shower, and some will not stand the wet sheet. This will depend upon the general health, upon the state of nutrition, and upon the habit acquired for cold water. Modifications of the method will have to be made according to the requirements in each individual case.

In Hysteria, when the patient is emotional, irritable, excitable, a sedative action of water is necessary. Tepid baths of 10-15 minutes duration will be of benefit. When a hysterical individual does not present an emotional state and shows poor nutrition, cold water applications for a very short time will be beneficial. Here again the indications for the character, duration and intensity of application will be made according to the necessities of the case: tact and judgment will be the only guide.

Choreic and epileptic individuals, whose nervous system is of especial make up, require a better and a more active supply of blood, better oxygenation. Here hydrotherapy systematically and intelligently carried out is a *sine qua non* in the management of the cases.

Headache due to meningeal or cerebral hyperemia or anemia may be relieved by local application of cold and heat respectively.

Sciatica and neuralgia in general may sometimes be ameliorated by external application of hot water in any of the above mentioned forms.

In organic nervous diseases, especially in cerebro-spinal syphilis, external application of water will certainly be of benefit. When syphilis affects the nervous system, besides its specific influence, it puts the organism in a state of pronounced asthenia. To show the effect of hydrotherapy I will cite a case in point. A young man of 38, several years after the initial syphilitic lesion, developed cerebral and spinal symptoms. The latter consisted of sphincter disturbances, changes in the reflexes and in the sensations, also ataxia. The cerebral symptoms consisted of headache and impaired memory. Specific treatment ameliorated the condition considerably, but gradually a general asthenic state developed and became quite pronounced. I then added to the general treatment hydrotherapy. The patient's improvement became noticeable so much so that, according to his own statements, he could not do without it. When for some reason he would discontinue it and remain only on the specific drug treatment, his condition would become decidedly worse. It was remarkable, as it resembled entirely a laboratory experiment. Resumption of hydrotherapy would improve his condition almost immediately.

In cases of muscular atrophy hydrotherapy, associated with friction, is very efficient.

In mental diseases, especially of the depressive type, shower baths of short duration are of great utility. I have at present a case of melancholia without delusions. Among other symptoms insomnia distresses mostly my middle-aged patient. He used all possible hypnotics, new and old, known in the pharmacopeia, but no relief. At present a tepid bath of half an hour's duration in the evening gives him considerable relief, and he gets on an average 6 hours' sleep. In delirious or maniacal states, in cases with marked exaltation, tepid baths frequently repeated are highly beneficial. Insomnia, which accompanies stages of excitement in the course of mental diseases, can sometimes be combated exclusively with a tepid bath or else a cold shower followed by a massage. A stream of cold water directed for a fraction of a minute over the back of the head or neck will sometimes induce sleep in similar condition.

Notwithstanding the important position hydrotherapy occupies in the treatment of various maladies, the various procedures employed in such cases cannot be applied to all patients. In other words, there is a certain number of contra-indications.

Generally speaking, cardiac and vascular diseases, diabetes and nephritis (chronic), advanced pulmonary tuberculosis are unfavorable circumstances. A few precautions should be taken during the administration. The room in which the patient stands undressed must be warm. Morning is the most favorable time for obtaining the best reaction.

It should never be administered immediately or shortly after meals.

Several hours must elapse between individual applications in order that the organism remain in normal equilibrium for a sufficient time.

After each application the body must be warmed up.

If in spite of the precautions there is a tendency to syncope, alcohol must be administered internally, or else the patient must be put in a hot bath.

BIOGRAPHY OF GREAT MEN.

As you say, you need concentration, and more knowledge and thought about serious and important matters. Shall I make one suggestion to you? Read biographies of great men—statesmen, soldiers, philosophers, saints. There is no kind of reading more interesting, or which has a greater influence on character. It is one of the principal means by which a man may educate himself.—BENJAMIN JOWETT.

THE BEST BOVINE WET-NURSE.

By J. ALLEN GILBERT, PH.D., M.D,

Portland, Ore.

WHATEVER the causes it would seem that artificial feeding of infants is becoming more and more prevalent. Whether or not social customs and the advance of civilization are causing degeneration in the milk producting function of the human animal would require accurate comparative statistics for determination, which are hard to obtain. Some for mere convenience in social life deprive the child of its normal food supply because some physician, either poorly informed or desirous of giving acceptable advice, has given his sanction to the opinion that artificial feeding is "just as good." There can be no doubt that the milk of many mothers is unfit for food for the child, but this is not the rule. Where mother's milk can be shown to be unfit it is mere indulgence of a sentiment at the expense of rational action to continue the breast as the exclusive food for the child. Where the mother's milk can be shown to be normal and adapted to the wants of the child it is mere selfishness to deprive the child of its normal food supply.

Whatever tends to deprive the human mammary gland of its normal functioning subsequent to the period of pregnancy adds one more mite to the general tendency towards the unfitting of mothers for nursing their own offspring. The prevention of mammary secretion slaps nature in the face and eventually heredity and natural selection will give convincing results. That mother who has a good flow of normal milk and deprives her child of its normal food is not doing her full duty by her child, to say the least. There are, however, conditions, other than mere milk supply, under which weaning of the child is the only rational procedure. Where social functions, personal convenience, or other selfish motives crowd out the child's wants, then to be sure artificial feeding is not only "just as good," but a great deal better.

When milk production is given second place a second class milk can be expected.

The flood of articles on "modification of cow's milk," "percentage feeding," "artificial foods," and the like, bear ample evidence to the difficulties encountered when the normal supply of food is for any reason deserted. As is well known there are many instances in which a Jersey cow is unable to suckle her own offspring. The methods of breeding her with butter always in view have rendered her unfit in many instances to suckle her own young. Is it not highly probable that even as methods of breeding have changed the function of the Jersey cow so social customs and the evolution of the present type of human being are to a certain degree responsible for the increase of artificial feeding? If by artificial means the Jersey cow has been so thoroughly diverted from her true function of mother to her calf that she is at times unable to suckle her own young, is it not a fair inference that some artificial agency in the human animal is one cause at least of the present tendency toward artificial feeding? Artificial foods have been a God-send to the human race in so far as they have supplied food to the babe which has no natural food supply, but wherever they tend to displace a normal human milk they become a curse instead of a blessing. They are but substitutes and substitutes are makeshifts.

There are cases, and those not a few, in which maternal breast feeding is out of the question. Under such circumstances the first thought is not for an artificial food but for a wet-nurse and when the proper individual can be found the advantage of wet-nursing over any form of artificial feeding is admitted by most reputable physicians. There are, however, certain disadvantages which weigh heavily against adopting this expedient.

DISADVANTAGES OF A WET-NURSE.

(1) *Expense.* Only those for whom expense is a negligible element can afford to hire a wet-nurse. However much a mother may desire to do the very best possible for her child in a large proportion of cases the expense incumbent upon engaging a wet-nurse forms an unsurmountable barrier. However, where it is at all possible a good wet-nurse is the best substitute for mother's milk.

(2) *Trouble.* As a rule the average wet-nurse is not expected to do anything except furnish nourishment for the child. This not only adds another member to the family, requires another room and adds to other inconveniences which necessarily accompany the rearing of a child, but brings also a second baby into the house, which adds to the confusion by its crying. This is no small element, for usually the wet-nurse is resorted to as a means of saving a child already weak, fretful and difficult to care for. Added confusion adds to the risk to the child. It is the exception when the wet-nurse can be found who has lost her own child just at the time that she is needed. Hence she must nurse both babies, or else wean her own for the sake of the wages offered her, which is in itself a questionable procedure.

(3) *Tyranny of the wet-nurse.* The average professional wet-nurse has a tendency to be tyrannical, for she knows she has the family at her mercy. The key to the situation is in her breast. In many instances the life of the child is dependent upon her, and in order to keep her in good humor other members of the household are more or less compelled to dance attendance upon her. This is at times a prolific source of discord and trouble. Fortunate, indeed, is the mother who can obtain from among her personal friends a mother who is willing to come into the home and tide the child over a crisis in which the absence of a wet-nurse would mean death.

(4) *Danger of disease in the wet-nurse.* It is extremely difficult under all circumstances to determine the presence of syphilis, tuberculosis, or other transmissible disease in a wet-nurse, and hence one assumes more or less risk in engaging the services

of a nurse. The scarcity of suitable wet-nurses leaves but little choice.

(5) *Modification of the milk by change of surroundings.* Frequently a mother who has a bounteous supply of milk is chagrined to find her milk failing when transferred to her new surroundings in the home of the child she is to nurse. The nervousness which necessarily accompanies the change is sufficient to materially modify the milk supply, both as to quantity and quality. Frequently the wet-nurse must be obtainable from the humbler walks of life, and being specially desirous to have the wet-nurse give "good rich milk" the parents of the child will utterly change her diet, which was in all probability of the commonest kind previously. Digestion suffers and the very end desired is thwarted by the kindness heaped upon her. As nearly as possible a wet-nurse should be continued in exactly the habits to which she has been accustomed. This is practically impossible.

When the objections enumerated above can be overcome then wet-nursing is by far the preferable method, but when one can not be sure of his ground and is compelled to install a wet-nurse of doubtful character and efficiency such a procedure is laden with far more risk than to depend upon a good supply of cow's milk.

QUALITIES OF A GOOD WET-NURSE.

(1) *Vigorous constitution.* It is not always true that a robust individual always gives good milk. However, other things being equal, the chances of finding a good nourishing milk are better in a healthy, robust individual than in one whose vital forces are at a low ebb. This is in a certain sense self-evident.

(2) *Good digestion.* The cow has been aptly called a machine for turning food into milk. The essential to such a process is the ability to assimilate and transform food into milk without derangement of the system. Hence, a good digestion is indispensable. Under bad digestion not only do deleterious products find their way into the milk, but the supply of milk is affected as to quality and quantity. In fact, it is entirely unnecessary to argue the importance of good digestion in any milk-producing animal.

(3) *Good glandular development.* A gland may appear large and promising without giving the normal amount of milk. On the other hand, a gland from which little may be expected, judging from its external appearance, yields a large quantity of good milk. However, as a rule, a symmetrical well-developed breast gives best results and should be an element of no small import in the choice of a wet-nurse.

(4) *Abundance of milk.* This goes without saying. As a rule the wet-nurse continues to feed her own child as well as her foster child. Within certain limits good breasts will generally accommodate their supply to the demands made upon them. One wet-nurse whose services I obtained had been nursing four babies besides her own just previous to coming to the home for which I had engaged her. As soon as she had only two to feed instead of five the excess of milk had to be taken with the breast pump for a while to relieve the engorged breasts, but soon the supply adapted itself to the demands of two. She was an ideal wet-nurse so far as I could detect.

(5) *Easily digested and assimilated milk.* Because a nurse gives plenty of milk is no sure sign that she will fill the requirements of her foster child. Milk and children differ. What is food for one may at times act as a poison to another. The best proof of a good or bad milk is the effect on the child and hence, to a certain degree, the choice of a wet-nurse is experimental. Certain qualities, however, are indispensable to a good milk.

(6) *Phlegmatic temperament.* Worry, temper and excitement show their effects in the quality and quantity of the milk, and hence a quiet, easy-going temperament is a decided advantage.

(7) *Freedom from disease or tendency to disease.* This point needs no defense, inasmuch as the nipple and the milk are both capable of transmitting disease.

(8) *A good healthy child of her own.* The best test of any food is its effect upon the consumer. The chances are in favor of a milk upon which one child is already thriving, though it must not be forgotten that even though a mother's own child thrives upon her milk a foster child may not do equally well. The personal equation of both nurse and child must be reckoned with. When there is either mental or physiological antagonism between the two the best results cannot be expected.

(9) *Good family history.* The rôle played by heredity in the transmission of disease makes it scarcely necessary to argue that a nurse should, if possible, be free from hereditary taint which would in any way render her liable to transmit either her disease or her constitutional tendency to the child.

CHOICE OF FOOD.

Where for any reason a wet-nurse cannot be obtained the choice of food for the child becomes a serious problem. Some children "take to the bottle" like a fish to water, but the difficulties to be met are so numerous that even the most rugged child can profit by careful and proper selection of food. The milk of the cow is the most accessible and, everything considered, the most advisable substitute for human milk. Modification of the relative proportions of the various ingredients is usually attempted, with varying degrees of accuracy, in order to render cow's milk similar to human milk. However, it is generally recognized that exact quantitative equivalents do not produce the same quality of milk. This often seems to be an element *sui generis*, due to other elements than mere quantity.

The milks of various breeds differ greatly from one another, both in quantity and quality. To the average individual milk is milk, and the only question asked is whether it is "rich milk." Whenever cow's milk can be digested it is preferable to any form of artificial food, and hence in the choice of a food for the child it is important that the difference of breeds of cows be considered.

QUALITIES OF A GOOD MILK.

Of the qualities enumerated and elaborated in an article published by me in the *Medical Record* for October 27, '06, the following qualities could be selected as essential to the feeding of infants: (1) Large quantity, (2) Small fat globule, (3) Slow creaming, (4) Easy remiscibility, (5) Slow churning, (6) Uniformity in size of fat globules, (7) Slow coagulation, (8) Easy absorption, (9) Good keeping qualities, (10) Cleanliness and purity, (11) Phlegmatic temperament in the cow (12) Healthy rugged cow, (13) Freedom from disease germs.

It will be seen that high per cent. of fat is omitted from the list. From the commercial standpoint a high per cent. of fat is a necessary element, but where milk is intended for infant feeding a high per cent. of fat is a disadvantage rather than an advantage. A milk with a high per cent of fat gives a relatively large fat globule, quick creamery, *i.e.*, an unstable emulsion, quick churning, large variation in the size of the globules and difficult absorption, as explained and discussed in the article cited above.

CHOICE OF COW.

That breed of cows which most nearly represents the qualities necessary to a good wet-nurse and gives milk most nearly in accord with the qualities desirable in a milk to be used for infant feeding is, as a matter of course, the preferable breed. In comparing the main breeds of dairy cows, viz., Jersey, Guernsey, Ayrshire and Holstein, consideration of the qualities of a good wet-nurse throws the advantage to the Holsteins. Their large frame, vigorous constitution and good digestive powers, coupled with their phlegmatic temperament, give an animal which at least inspires confidence. The aim in breeding the Holsteins has been to get as much milk and beef as possible from the same animal. This insures a good physique and rugged constitution. In the Jerseys, where all else is sacrificed to a milk rich in fat, the breeding powers and general robustness are not all to be desired.

In a general comparison of breeds the Wisconsin station decided in favor of the larger, hardier, more vigorous cows, and a study of the characteristics of the various breeds leaves us with the conviction that no breed excels the Holstein in constitutional vigor. Their calves are large at birth, almost always strong and thrifty, growing fast and fattening easily.

"At the Lynchburg Fair," writes a friend, "there was a cattle man of long and large experience who was there in charge of a herd of Holsteins and Guernseys from Wilkesbarre, Pa. He said they had great trouble in raising Guernsey calves, that they lost many, and that they were 'dull and feeble' until they quit giving them any Guernsey milk and gave them Holstein milk. He says they do well on Holstein milk, grow rapidly, and are strong and thrifty. The Guernsey calves he had with him were vigorous and healthy calves." Such claims for the Holsteins are numerous. Here is room for experiment.

The high mortality and poor breeding qualities in general of the Jerseys puts a serious handicap on the breed. The general nervous characteristics of the Jerseys, specially manifest in the viciousness of bulls, as well as in the nervous temperament of the cows, adds an equally serious objection to the use of their milk as food for infants.

Guernseys most nearly resemble the Jerseys. They are somewhat larger, stronger boned and a little coarser in appearance.

Ayrshires show a still farther departure from the Jersey type, though in many respects their resemblance to the Jersey is marked. They are of medium size. They, too, are of rather high-strung, nervous temperament, showing, perhaps, a remnant of their origin from the original wild cattle of Great Britain. The Ayrshire is a good cow.

In a consideration of the qualities desirable in a milk to be used for infant feeding it will also be seen that Holstein milk most nearly meets the requirements indicated. Its small and even-sized fat globule insures a stable emulsion, slow creamery, easy remiscibility, slow churning, and ease of absorption, all of which are important elements in a milk subject to the disadvantages which surround the retail milk trade. A milk with large fat globules, *e.g.*, the Jersey, churns easily, and frequently globules of butter can be found in a Jersey milk delivered at the door. A large fat globule also causes cream to rise quickly and makes remixing of the cream relatively difficult. Hence, after separation the original emulsion is harder to obtain in a milk with large globule than in one which has a small globule. The large fat globules also suffer a handicap in the ease of absorption from the intestines. Jerseys have the largest fat globule, Guernseys next, Ayrshires third, and Holsteins the smallest.

In fact, the Holstein milk meets every requirement of a "good milk" except in the one respect of a high per cent. of fat, and where the feeding of infants or invalids is the point at issue a high per cent. of fat is a disadvantage, as pointed out by me in the article cited above. Beach, of Storrs, Conn., has shown that a milk poor in fat is better for the young growing animal than a milk rich in fat. If his results are to be accepted not only do young growing animals thrive better on a milk poor in fat, but they build better bone and muscle. An exclusive diet of milk rich in fat destroys the appetite and disorganizes the digestive function.

Sum up the qualities of a good wet-nurse and of the milk best adapted to infant feeding and it will be seen that every quality is to be found in the cow that hails from Holland. As a cow she has large size, large bones, rugged constitution, good family history, good breeding qualities, good digestion, strong resistance and a phlegmatic temperament. Her milk is characterized by its large quantity and its small fat globule, which insures uniformity in size of the fat globules, slow creaming, easy remiscibility, slow churning and easy absorption.

"THE NEGLECTED MIDDLE THIRD."

By John Warren Achorn, M.D.
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The prevention of tuberculosis in the lungs depends, in part, upon food thoroughly munched before it is swallowed, and upon the avoidance of constipation, not by taking physic, but by eating sufficient vegetables, fruit and other food containing cellular waste, also thoroughly munched, to maintain the muscular tone of the stomach and intestines; for the beginning of consumption often follows indigestion and constipation. Coarse food gives the stomach and intestines something to elbow along, but it should be chewed until dissolved by the teeth and tongue, that it may become well mixed with the saliva in the mouth. Again, food not properly prepared is swallowed in chunks and the stomach in time exhausts itself trying to triturate it, it is poorly absorbed by the intestines, and as a result an imperfectly nourished, constipated body waits on indigestion. Our teeth are in our mouths and not in our stomachs, but many people seem to have forgotten this fact. The crushing power of the jaws is 500 pounds, while the stomach has only limited muscular energy.

Taking cold with the congestion it induces in the nose, throat and bronchial tubes, along with the general upset that attends this state of the body, and the debility that follows, is a not infrequent cause for incipient consumption. The bacilli find conditions in the air passages suited to their needs and development. Taking cold is almost always dependent upon neglect of some of the simplest rules of health. The person who "sand papers" his skin every morning with horse-hair brushes, or other things that stimulate it, keeps the cutaneous circulation bright and the skin alive, so that it reacts quickly to sudden changes in the weather. He should sponge with cold or tepid water after his rub and then dry with a coarse towel. If he will practice *deep* breathing several times a day, and keep in motion when wet or rained upon, and, when waiting on the street in cold weather, take deep breaths under a buttoned coat, frequently rising on his toes to hasten the circulation, he will seldom take cold;—for "taking cold" depends generally, on a sluggish skin and indigestion, both of which impair the circulation, and all three of which are stimulated in turn by action.

The diaphragm is the partition between the lungs and the abdomen, which contains the stomach and liver. The stomach and liver are both about 12 inches long and 4 inches wide. The stomach lies on the left of the median line and the liver on the right of that line and both of these organs are suspended under the diaphragm. The lungs are in an air tight box the bottom of which is the diaphragm. The diaphragm can be pulled up and pushed down by the deepest kind of breathing, two or more inches. The stomach and liver follow the movements of the diaphragm. There is a vast blood and lymphatic circulation in and about the stomach, liver and intestines where the work of digestion, assimilation of food and metabolism (change) is going on. The lymphatic circulation for the whole body amounts to 40 pints while the amount of blood in circulation may equal 18 pints. The lymphatic circulation through and about the stomach, liver and intestines is probably equal to that of all the blood in the body. From this comparison we can readily see how important it is to keep the blood and lymphatic currents about the digestive organs actively in motion. Nothing promotes this more handily, for those *not* engaged in manual labor, than deep breathing. The men who work with the pick and shovel, who saw and split wood, and the women who scrub at wash-boards or work cleaning paint and floors, all, because of the constant changes in position they are obliged to make, exercise their bodies in the region of the digestive organs and they should breathe well and deeply. The magnificent development of the muscles of their backs and shoulders and of the muscles of respiration, the muscles that lift the ribs off the lungs, so the air can get into the air cells at the very bottom of them, all work to this end and so does the thing they do. But for those who sit at desk or work at benches, or work bent over or standing, but with breath held much of the time or but gently drawn on account of the delicacy of their manipulations or the intensity of their thought, there is no such relief or development through work or exercise. All such, not only deny themselves the requisite amount of air needed to oxygenate the blood properly, but they actually retard the digestion of their food by the attitudes they assume and the fixed positions they maintain for hours at a time. Nothing they can do under the circumstances begins to equal in importance and benefit this simple practice of drawing in the breath fully and then forcing it out to the limit, half a dozen times a day and as many times as possible, whenever the thing engaged in affords an opportunity. Like any other practice, deep breathing soon becomes a habit, a routine act. The "tidal wave" in ordinary breathing is about 30 cubic inches. Deep breathing increases the air changed 100 cubic inches at each breath, and not only satisfies the need of the blood for oxygen, but it promotes the digestion and absorption of food, for with each deep breath the stomach and liver are churned up and down and the work of both favorably influenced. No greater safeguard in favor of good health can be found, for those who work in closed places, at a stand still, than this simple exercise, persisted in: it can be practiced anywhere at any time and by everybody. The first thing in the morning, before dressing, and just before retiring are appropriate times also, especially for women with their stomachs, livers and the bottom of their lungs boarded in by corsets during the day in such a way as to render these organs in some instances almost helpless.

Too many people, especially young people, spend half the night, after a hard day's work, having what they call a "good time." To deprive any one of restful enjoyment or simple healthful diversion would be as unfair as it is unwise. But there are many who have only strength enough to do the work of the day. Abiding by the order of one's physical makeup, or the circumstances that control one's daily life, should not be looked upon as a hindrance to happiness or pleasure, for opportunities come to us all or ways can be found for enjoyment without risk to health. Happiness is always present with those who train their minds and hearts to accept, what for them, under the circumstances, is the best thing to do. Most of us have to work, this is what modern civilization demands of us, and most of us are happiest when usefully employed, provided we are well. One who is both well and strong has received double measure. If we break faith occasionally with the law of our physical well-being, no harm is likely to come from it, if we are only wise enough to "break back" and not keep up indulgences that betray health and strength. Any person who will establish this understanding with himself is his own "light keeper" and almost sure to navigate his body as a sailor does his ship, so as to avoid the shoals that invite disaster or disease. Those who break down chasing pleasures night after night, following weeks and months of hard work, have only themselves to blame for it; they cannot stand the double strain of work and play, they might withstand either but cannot endure both. Two hours sleep before midnight are worth all the rest of the night. Why this is so is not easy of explanation, but experience teaches each one of us in the end that there is truth in this statement. The surest way is, to declare in favor of physical and moral standards, such as we feel we can live up to when doing our best, and then by cultivation gradually strengthen both and so advance year by year toward the highest plane of life and living of which we are capable.

Every sleeping room should be full of good air at night and this can only be secured by having the windows open. It is not necessary to sleep in a draft; anyone with fair intelligence can guard against this, but good air or air as good as the neighborhood affords, is absolutely essential to health. An open fire-place in the room, even if no fire is used, is desirable, for the draft up a chimney takes impurities out of a room as nothing else can. The room occupied by a consumptive should not be kept too warm, not over 65 degrees in temperature by day and as cold as open windows will make it at night. These temperatures, except for old people and special cases, are best for every one. There should be no carpet in the room and it were better there were no rugs, the floor should be such that it can be washed. The floor should be washed by wet scrubbing and the dusting done with cloths moistened with some antiseptic solution;—1 to 1,000 corrosive sublimate or one 5 grain corrosive sublimate tablet to a quart of water. There should be no draperies in the room, and the walls were better painted than papered that they may be washed. There is nothing that will afford infection from tubercle bacilli quicker than unclean surroundings, rooms that are over-crowed, where there is little sun-light, where the ventilation is neglected, and the windows are kept closed. There should be no plush furniture in the room but only such as can be washed. The person affected should expectorate into a cloth that can be burned as soon as used, or into a cuspidore containing water to which carbolic acid has been added in the strength of 2 teaspoonfuls to every glass of water. A tuberculous person should place a cloth over the mouth when about to cough, to prevent the invisible particles of sputum loaded with bacilli being projected to the floor or about the room or onto persons sitting near. A thousand bacilli, according to Koch, who discovered the parasite, can travel abreast through the eye of a needle. The vessel used for expectoration should be covered, that flies and other insects may not carry the contents about and leave it where it will dry, for it is the dust containing the bacilli that is breathed into the lungs. Paper cups may be used as cuspidores but they must be kept covered and burned every day. A tuberculous person going out to walk should have a bottle to expectorate into, such as is made for the purpose and carried in the pocket, for sputum in the streets often gets on the shoes of others and is carried into homes only to become dry, when it might be inhaled by some debilitated person.

The tubercle bacilli never invade a well nourished, healthy body, because the tissues are resistant enough to prevent it; otherwise any of us might have consumption, since these vegetable parasites are all about us and just as willing to attack one person as another. They find lodgment only on people whose tissues are debilitated; those whose powers of resistance are low, because their nutrition is bad, their blood poor and their vital or nervous force exhausted.

The dishes used by consumptives should not be left in the room, for flies to run over, but removed and washed immediately. Food partly eaten by persons who are ill and left on a plate or some other dish, should not be tasted by others. All such food should be thrown away or kept separate for the use of the person for whom prepared. If only small portions are served at any meal, and repeated if relished, none need be wasted. It is a great mistake for children to eat foods that have been partially eaten by another who is ill. Children's teeth are defective and germs lodged in the cavities may reach the glands of the neck or the tonsils, only to infect them, or they may lodge in the intestines, carried down from cavities in the teeth by the food munched and swallowed and so produce or establish disease in these parts.

People practice "health" in this western world of ours with the cart before the horse; they run after it when lost, not before. Dry rubbing, cold sponging, deep breathing, clean teeth, munching, regular bodily habits, early to bed, the recognition of one's "limitations" physically, "breaking back" having once broken over, making friends with one's condition because it pays, these are among the simple preventive measures, that lived up to, will safeguard the physically weak against tuberculosis, and the strongest against many of the chronic disorders from which people of maturer years suffer.

THE

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HEAT EXHAUSTION AND SUNSTROKE.

HEAT exhaustion is a loss of body temperature with vasomotor paralysis, and is caused by exertion in high temperature. This condition does not necessarily arise from exposure to direct rays of the sun. It may follow in artificially heated places, for example, in engine rooms or, in summer, in the house, when there is a predisposing cause or causes, such as prolonged exposure to an impure air or room without proper ventilation, in weakened conditions following illness, etc.

The symptoms of heat exhaustion are: prostration, pallor, dizziness, possibly loss of vision, cold perspiration, followed by semi or total unconsciousness. The pulse is extremely feeble, there is increasing restlessness, and at times muttering delirium. Cases have been reported where the temperature fell to 35° C. (95° F.).

Treatment for heat exhaustion consists of placing the patient in a horizontal position, the administering of stimulants by the mouth, if possible—brandy, whiskey, ammonia, digitalis. If the patient is unable to swallow, hypodermics of digitalis and strychnin. Friction to the extremities, together with dry heat by hot water bags or bottles filled with hot water.

Sunstroke or Heat Fever will generally be found in persons exposed to the sun's rays. A humid atmosphere which interferes with perspiration or evaporation acts as a predisposing cause, as does intemperance, especially in the use of alcoholics.

The symptoms of heat fever—a term which we regard as preferable to sunstroke—are a sense of burning heat of the body, with a feeling of oppression. If this is followed by prostration the victim becomes quickly unconscious or comatose, dying at times instantly, at other times in a very few hours. In less severe cases there will be headache, dizziness, oppression, nausea, vomiting, occasionally diarrhea. There may be colored vision, to be quickly followed by muttering delirium and intense restlessness, flushed face, hot and dry skin, and a temperature much in excess of normal—41.6 to 44.4° C. (107 to 112° F.). There is labored or stertorous breathing, pulse frequent and full, pupils dilated at first, followed by contraction, scanty urine, with at times twitching of the muscles and occasionally epileptiform convulsions. The skin may become moist, but the perspiration when it exists does not lower the temperature. Death, when it occurs, follows in a few hours. The favorable symptom will be a gradual fall of temperature. Recovery is not always complete, as there is apt to follow a mental weakness or incapacity for sustained mental effort, while an unusually high temperature brings on a severe headache.

Treatment for heat fever will consist in reducing the temperature. The patient should be placed, if possible, in a cold bath with ice added. The body may be rubbed with pieces of ice whether in a bath or not. Ice water enemas will be found very serviceable in reducing the temperature. If there are convulsions give chloral or chloroform;

heart failure, digitalis and strychnin hypodermically; in asphyxia bleeding is called for.

It is important that the distinction be clearly and quickly made between heat exhaustion and heat fever, as the treatment is entirely different. In heat exhaustion, stimulants and external heat with friction. In heat fever, cold externally and by rectum until temperature becomes normal. The thermometer will quickly determine the diagnosis—subnormal temperature heat exhaustion, a high temperature heat fever.

MODERN CONTROL OF CONTAGIOUS DISEASES.

Medical science, although a thousand years old, has only in our own time become really conscious of its social character and its duties to the race. Its mission is not only to cure, but also to prevent disease both in single cases and in epidemics. The most dangerous disease group is that of the infectious diseases, because of their ability to increase from a single cell to a great number of cells in a remarkably short time. The prevention of this danger is the goal of modern control of contagious diseases.

Liebetrau states, in "Social Medicine and Hygiene," that "infectious diseases have caused more victims among men and a greater loss of national strength and capital than all the wars, and even before the specific germs were known it was early recognized that there existed a necessity of doing something to prevent this terrible devastation." Many means were employed but with little success until the discovery of an organic cause had gained a strong foothold on progressive medicine and the knowledge of their mode of living was brought to light.

The criterion of modern means of control as compared with earlier methods is its simplicity. While in former times the frontier was barricaded with soldiers the ship of quarantine laid off shore for a month and baggage of travellers in infected countries was destroyed, now we claim a victory in a simpler manner and with little inconvenience to the traveller. This is done by laws and by physicians regularly appointed by the government to act as inspectors and public guardians.

The second main point for control of contagious diseases is an early diagnosis. This lies principally in the hands of the bacteriologist, but before he can be called on the clinical diagnosis by the attending physician must be made and all cases, even if suspicious only, must be reported to the health authorities. Nor is the plea of ignorance allowed, as in the case of a young physician who, having failed to report a case of smallpox, claimed that he did not recognize the condition, never having seen a case before.

After the clinical or bacteriological diagnosis has been made beyond a probable doubt, then a physician of the board of health steps in in an official capacity and endeavors to ascertain the cause of the infection and prevent a wider spread of the same by instructing the patient and other members of the family concerning measures of prevention.

The first disease against which were exerted special energies was typhoid. As reported by Koch since the certainty of diagnosis depends more on the Widal reaction than on examination of urine and stools, we can depend on Widal's test to determine the positive diagnosis of typhoid, but unfortunately it does not negative the diagnosis. There are many instances in which the diagnosis has been made by the bacteriologist in which the clinical picture argued against it; and conversely many clinical diagnoses have been made in which Widal test was negative. There are a number of laboratories under state and municipal control and free of expense for the determination and study of infectious diseases.

We formerly believed that a single case arose from somebody's faulty water supply. To-day we lay more weight on infection from man to man and we, therefore, endeavor to prevent it by strenuous isolation and complete disinfection of their secretions. It is much better, therefore, to remove the patient to a hospital and disinfect the house.

It is also of great importance to have control over the patient during convalescence, and we insist on reports of all known typhoid cases until the bacteriological examination is negative before the sanitary police is removed.

We should seek especially to instruct our citizens in hygiene and preventive medicine.

SUBMERSION IN THE TREATMENT OF WOUNDS.

THE constant warm bath has been highly recommended in the treatment of extensive burns and large suppurating surfaces. It has proven of great value in preventing sepsis after severe burns of large areas of the body, and is said to have very materially diminished the mortality. The bath should be of a temperature of 100° F., and the patient kept immersed in the bath for some days, or even weeks or months, until the sloughs have separated and a granulating surface is present. This method is especially applicable to cases of burns or scalds affecting the extremities or the trunk of the body; in cases of extensive involvement of the face, scalp or neck, the method, obviously, cannot be employed. Warning has been given that absorption of poisonous substances readily occurs during the constant baths, and therefore this danger must be carefully guarded against.

The use of the hot bath in poisoned wounds, to which attention has been recently called by Fraser, is noticed by Hodges. His experience extending over a long period of time, warrants him in offering the following conclusions: "(1) Continuous submersion even for long periods,—two or three months if necessary,—is altogether harmless. (2) That it may be easily secured anywhere by anyone possessing an ordinary amount of ingenuity. (3) It will almost instantly limit infectious gangrene, and control the resulting septicemia and sapremia. (4) It will quickly relieve the pain and discomfort of phlegmonous inflammation or cellulitis. (5) It will speedily reduce temperature and pulse and overcome the consequent depression of the patient's vital forces. (6) The temperature of the bath is immaterial, except that when below the temperature of the room it more promptly reduces fever and many bacteria will not develop at this temperature, while such as do will develop less vigorously than at a slightly higher temperature."

The most benefit is derived when the baths are prepared with a normal saline solution. The pain produced by the contact of the fluid with the parts denuded of their skin, is far less when a warm normal salt solution is employed. Moreover, this form of bath possesses marked antiseptic qualities, as well as some healing properties.

INDIAN CORN AS FOOD.

IN general it may be said that the corn food products are more digestible than is commonly supposed. Not only their digestibility, but their cheapness and the readiness with which they are converted into palatable foods suggest a more extended use and entitle them to a much higher place in the estimation of the public as foods. The use of large amounts of butter, pork, or other fatty foods in connection with corn as food is questionable, since the difficulties in the way of establishing a proper balance between the protein and other nutrients is thus increased. Sugar and syrups are open to the same objection and for the same reason, says Merrill of the Maine Experiment Station, but the writer calls to mind the health of the negroes of the South who live almost exclusively on corn food stuffs and pork. In antebellum days when the slaves were fed mostly on corn bread and pork, there was less sickness, less rickets and intestinal troubles than now when the negro indulges in sweets and wheat bread. The teeth of these people were white and sound; they were muscular and had great endurance; were large boned, seldom sick, and mostly long lived. We have always believed that the health and strength of the Southern negro was largely due to the simple food and outdoor work which was their lot before the Civil War.

Corn foods require much more prolonged cooking than wheat foods in order to break down the starch grains and to rupture the walls of the cells, and thus expose their contents to the action of the digestive juices, and herein, probably, lies the trouble experienced by some in the easy and perfect digestibility of corn foods.

Corn meal is one of the cheapest of our foods, and we believe should become more generally used.

THE DIPLOCOCCUS INTRACELLULARIS MENINGITIS AND ITS RELATIONS TO THE GONOCOCCI.

A SERIES of noteworthy contributions concerning the agent of epidemic cerebrospinal meningitis, the diplococcus intracellularis meningitidis, or meningococcus, have been published of recent years, including the experimental investigations of Kolle and Wassermann (*Klin. Jahrbuch,* 1906, No. 15, and *Deutsch Med. Wochenschrift,* No. 16, 1906), and those of Yochmann (ibid No. 20, 1906). The findings of these investigations are supplemented in various directions by the results of the personal experiments of Professor W. G. Ruppel, in the *Deutsch Medizinische Wochenschrift,* 1906, No. 34, which are not yet definitely concluded and will be more thoroughly discussed at a later date.

For the meningococcus cultures forming the basis of these experiments, the author is indebted in part to Professor Neisser, of Frankfort-on-the-Main. The cultures were all obtained from the cerebrospinal fluid of patients suffering from typical cerebrospinal meningitis; and their morphological as well as culture behavior showed in every way the characteristics of the Weichselbaum meningococcus, as recently outlined by Kolle and Wassermann. All those cultures which in any way differed from the normal standard, in regard to their behavior towards the Gram stain, or their manner of growth on the customary solid culture mediums, were strictly excluded from these examinations.

The author aimed in the first place at obtaining cultures of these microorganisms on fluid culture mediums, and at adapting them if possible to a definite nutritional soil in such a manner that mass cultures could be secured. This was done on account of the impossibility assumed by him as existing for accurate dosage of culture material grown on solid mediums, and also because in his opinion the immunization of large animals offers better prospects from cultures upon fluid mediums, for the reason that as a rule large culture masses are far more easily obtained with the assistance of fluid culture mediums. These meningococcus cultures, although exceedingly obstinate at first, were gradually made to grow very exuberantly by systematic transference upon a fluid medium of definite composition, continued during eight months. One particular meningococcus tribe, designated as "Culture W," readily took to the fluid nutritional medium, and at the present time presents an exuberant extremely characteristic growth. Beginning at the surface of the fluid, the growth promptly fills the upper third of the test tube, without ever clouding the entire amount of the fluid, the middle portion of which invariably remains perfectly clear and transparent; the growth progressing most energetically precisely at the boundaries of this transparent zone. A slight sediment is usually present, due to the sinking down of cocci, and a delicate surface membrane is apt to form after prolonged stay in the incubator.

With special reference to the microscopical picture, the behavior of the culture towards Gram's stain is absolutely negative. No changes in the appearance of the culture have taken place, although it has been grown for the past eight years upon artificial fluid mediums. It is so much the more noteworthy that in the course of time Culture W has developed a very striking virulence for all the ordinary laboratory animals.

Duplicating the experience of former observers (Kolle and Wassermann), it proved impossible at first to demonstrate the presence of meningococci in the blood of animals which had been infected with Culture W, although the intraperitoneal injection of rather large culture masses did result in the death of mice and guinea pigs. This culture assumed an entirely different character, however, after it had been transferred to the same artificial soil, every day for five months. At the present time, it is possessed of a highly pathogenic character for all laboratory animals. Heavy rabbits weighing 2000 gm. will succumb to intraperitoneal injections of incredibly small culture masses; animals which had received 1 c.cm. of a culture dilution of 1:20,000,000, even of 1:200,000,000 intraperitoneally, dying within 12 to 18 hours under very characteristic symptoms. The author succeeded in every single case in the demonstration of meningococci in the pleuritic exudate and in the blood (heart's blood), as well as in the absolutely bloodless cerebrospinal fluid. Meningococci in pure cultures could be grown from these fluids, in contradistinction to the statements of other writers. Meanwhile the identity of this culture with the Weichselbaum meningococcus has been definitely established, especially since the active immunization of mice and rabbits proved positively feasible—subcutaneous injections of virulent undoubted meningococcus cultures protecting against intraperitoneal infections with several times the fatal dose of the highly virulent culture (Culture W).

The virulence of a series of other meningococcus cultures has likewise been increased in a similar manner by the author.

The disposal over highly virulent meningococcus cultures is of great practical importance for the examination and estimation of the meningococcus immunization serum. The repeated occurrence of epidemic cerebrospinal meningitis of recent years has rendered imperative the search for specific prophylactics and remedies. As soon as convinced of the constant virulence of his meningococcus cultures for animals, the author did not hesitate in attempting the preparation of specific immunization sera in his turn. For this purpose horses have been subjected for some time to injections of virulent material, and in this manner a serum of distinctly demonstrable protective and curative power has been obtained. This serum protects white mice, when given to an amount of 1/250 c.cm. against 100 times the fatal dose. The protection extended by the serum to rabbits is shown by the following tables:

Amount of Serum. Injected subcutaneously.	Amount of culture injected intraperitoneally 1. c.cm.	Behavior.
	1:20000	+ After 12 hours
	1:200000	+ After 24 hours
	1:2000000	+ After 36 hours
	1:20000000	+ After 24 hours
	1:200000000	+ After 24 hours
1 c.cm.	1:200000	Living
0.5 c.cm.	1:200000	Living
0.25 c.cm.	1:200000	+ After 7 days
0.1 c.cm.	1:200000	+ After 3 days

Keeping in mind the fact that the rabbits protected by the serum were infected with a culture mass exceeding more than 1000 times the fatal dose, as shown by the table, the power of the serum would seem to be quite potent. As his horses, however, have hitherto received relatively small culture masses only, the author hopes soon to be in a position to report even more favorable results. Certain curative attempts with the serum likewise had a rather favorable outcome.

With special reference to the contents of the serum as agglutinins, it was found to agglutinate not only the homologous culture, but also all the remaining true meningococcus tribes, and that in dilutions of 1:1000 to 1:2000. The agglutination test, while of undoubted value for the differentiation of true meningococcus tribes from other cultures which present a similar cultural and morphological behavior, is not equally suitable for the estimation of the contents of a given bactericidal meningococcus serum regarding its specific protective and curative properties. The serum of these horses contained the same amount of agglutinins at a time, when protective forces could not as yet be demonstrated by animal experiments. Meanwhile the agglutinin content has not undergone a further increase through the continued immunization of the horses, which resulted in a notable rise in the content of the serum as to its protective properties.

In addition to the above described meningococcus serum, for the preparation of which virulent cultures are employed, it seemed important to obtain also a serum through the immunization of horses with avirulent cultures; just as it must necessarily be of great interest to obtain a gonococcus serum, in view of the close relationship between meningococci and gonococci, as demonstrated by the author's experiments. The preparation of these various immunity sera is under way, but this work is not yet definitely concluded. A preliminary test of the various sera, however, has served to confirm the author's conviction that the differences existing between the three immunity sera above referred to are purely quantitative in character.

THE THERAPEUTICS OF RADIUM.

When this element is applied with caution the effect upon cell life is marvelous. Abnormal cells disappear because perhaps they are so unstable that an application which will destroy them does not damage the normal cells. If properly used, the normal cells according to Robert Abbé are stimulated to embryonic activity, so that there is regeneration of lost tissue, even to restoring the natural shape of a sarcomatous jaw bone. But there is danger in the indiscriminate and prolonged use of radium, for prolonged applications undoubtedly destroy every living tissue within reach, producing intractable ulcers. With less heroic applications there is a gradual loss of vitality, while in still shorter applications there follows aggravation of the condition. Therapeutically, radium should be used only by those thoroughly acquainted with its properties.

METALLIC TIN IN BEEF EXTRACT.

We learn from the *Lancet*, Jan. 5, 1907, that a large stock of beef essence or beef extract sent to South Africa during the Boer War was sold recently, and that many of these were returned to England. The contents of the tins were found upon examination to be very fluid, although new samples of the same product and the same temperature were in the form of jelly. The color of the older material was a dirty yellow, while that of the fresh tins was clear and amber colored. The appearance of the surface of former was dull, while of the latter bright amber. There was no odor to indicate decomposition, while the inner surface of the tins in some instances showed dark patches or spots. The contents were examined for bacteria but found sterile, while there was no evidence that the gelatin had undergone putrefaction. The change resulted from metallic contamination of tin dissolved from the container and subsequently precipitated in organic combination. Metallic tin was found in the contents to the extent of between 0.02 and 0.03 per cwt., or 1½ to 2 grains per pound. Many organic acids, such as lactic and carminic, dissolve tin, which is found in the form of an organic salt.

It is clear from these disclosures that beef extract and milk, with perhaps many vegetables should not be kept in tin containers. Glass should be used for those products which are apt to be kept for a considerable time.

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PREVENTIVE MEDICINE.

(A Series of Papers by the Editor.)

Continued from page 417.

INFECTION THROUGH AUTOINTOXICATION.

Autointoxication results from the absorption into the circulation of certain compounds of putrefactive changes in the intestinal canal. Brieger showed that disease may depend upon the presence in the system of substances capable of combining with the acids of the secretions to form salts which correspond with inorganic and organic bases. Selmi called these substances ptomaines, chemical compounds basic in character, formed by the action of bacteria upon organic matter, in contradistinction to leucomaines, which are classed as animal alkaloids, resulting from tissue metabolism in the body. Ptomaines resemble vegetable alkaloids. Much has been written on the subject of the part played in digestion by the bacteria, of construction and destruction, or the process of building up and breaking down, but a discussion of this would be out of place in an article of this character. For our purposes we will assume that the processes are familiar to the reader and confine our remarks to autointoxication in its restricted sense.

First, then, by faulty elimination we may have normal excrementitious products retained in the body, for instance, in uremia from insufficient excretion by the renal cells, the suppression of perspiration, thus retaining toxic products in the system which would otherwise be thrown off through the sudorific or sweat glands and a retention and absorption of the effete material that should be carried off through the bowels. Then we have incomplete chemical change, oxidation being incomplete and intermediary products thrown into the absorbents instead of less poisonous substance. An excess of, or faulty elimination of uric acid, is said to cause gout and a whole train of disturbances attributed to a condition called uric acid diathesis. The presence in the body of acetone in diabetics is another illustration of imperfect chemical change.

A deficient glandular secretion may result from incomplete chemical change. This occurs in that form of diabetes known as pancreatic, as well as in myxedema, and Addison's disease. Excessive secretion of the thyroid gland is responsible for exophthalmic goiter.

Albumins and peptones, as well as probably other compounds—through faulty absorption—resulting from the digestive process, may find their way into the circulation instead of being reconverted into albumins, and produce positive poisonous effects. Glycogen may in certain hepatic disorders find its way into the blood and urine, or certain foods, such as the carbohydrates, be converted into glucose and produce, according to the degree of change, glycosuria or diabetes.

It is known that mental emotion may cause the milk of nursing mothers to become toxic, while the defective action of certain organs may lead to the formation of toxic compounds.

PHYSICAL CAUSES OF DISEASE, SUCH AS CLIMATE, COLD, HEAT, SEASONS, ETC.

Severe and sudden changes of temperature from day to day certainly have a decided determining influence in the production of many pulmonary affections. Damp cold, for instance, is positively very active in the production of consumption, and is most injurious to those in whom it has already developed. Localities in which damp soil is a prominent feature are undesirable places for consumptives to make their home. In fact, all catarrhal conditions are aggravated by dampness, hence the advisability for those suffering from these disorders to seek a dry climate. Rheumatic affections, too, are made worse by moist and cold climates. It is a matter of common observation that the rise and fall of sickness from pneumonia, bronchitis influenza, croup, diphtheria, tonsillitis, and scarlet fever are more or less controlled by the fluctuation of atmospheric conditions, these diseases being increased by a lower, and diminished by a higher, temperature. Some writers deny the agency of cold in the production of disease, and base their arguments on the fact that many affections commonly ascribed to cold are not more prevalent in cold seasons than at other times, or in high altitudes than elsewhere, and on the theoretical assumption that an agency acting on the external surface should not be capable of lighting up inflammation of different internal organs.

Statistics prove that pulmonary tuberculosis is greatly influenced by topographical conditions, being greater at a low elevation with a maximum soil moisture than in a higher elevation with a less moist soil. Season has only a small influence upon the mortality from this disease. The popular idea that the larger number of deaths occur in the winter is shown to be false, the greatest mortality occurring in the month of May.

The influence of climate in the causation and treatment of Bright's disease is not quite understood, but there is reason to believe that low temperatures, rapid changes of temperature, and high altitudes are unfavorable elements. Theoretically, a warm, dry, equable climate is an ideal one to relieve the diseased kidneys.

The general effects of heat upon the human organism, as shown by Rattray, are as follows: less food is needed, growth is increased, but muscular force is lessened. Dampness increases the depressing effects of heat. The degree of absolute humidity is of great importance in the causation of disease. A sudden increase appears to cause as much disturbance in the functions of the human system as that produced by a sudden increase of heat. Insolation or heatstroke frequently occurs in consequence of increased humidity, rather than by actual increase in temperature. When the air is hotter than the body the absorption of heat by the skin is modified by the increased perspiration. If the air be dry, sufficient evaporation takes place, owing to the absorption of the moisture by the air, and the body feels cool. If the air be damp, evaporation does not take place and the body suffers from the effects of over-heating. The drinking of alcoholics during spells of high temperature and humidity increases the danger of sunstroke by producing an irregular action of the cutaneous nerves through its depressing effects upon the nerve centers and perhaps also by its well-known influence in checking the elimination of waste products.

A few years ago observations were made in England comparing the amount and severity of cases of sunstroke among the harvest laborers in the districts where they drank cider in the fields; and in other districts where they drank beer. It was found that where the latter—the liquid containing the greater percentage of alcohol—was drunk, there were more sunstrokes.

WATER SUPPLY.

Although it is considered that the great majority of the numerous bacteria living in the waters supplied by the ordinary city hydrants are quite harmless, still no one cares to drink of a water known to be teeming with this low order of vegetable life if permitted to choose between such a water and another not possessing these undesirable qualities. It has even been claimed that the presence of these bacteria in the alimentary canal facilitates digestion. To propound such a theory is wrong, since, in the event of its general acceptance, much evil might ensue.

Boiling as a method for rendering water suitable for consumption appears to meet the approval of most sanitarians. Unfortunately, the purification of water by boiling for general use can only be carried on upon a small scale. There are authorities who are doubtful as to whether boiling does not deprive water of elements necessary to nutrition. Experience has proven that such water does not answer all the requirements of a wholesome water, and, indeed, it has been shown that boiled water is less liable to take up any lime, lead and other materials. During outbreaks of cholera and typhoid fever the injunction of boards of health and sanitarians to render all water used for household purposes free from germs by the process of boiling should not be neglected. If it be boiled for fifteen minutes it is practically free from all live bacteria germs. The bacilli of typhoid, cholera and diphtheria are unable to resist such a degree of heat. Occasionally, however, very resistant but harmless germs may resist this brief heating process, and, if it be desired to destroy all microorganisms that may be present in a contaminated water, the water should first be carefully filtered, boiled for an hour, and then allowed to cool slowly. Such water may be regarded as absolutely sterile. After boiling water should be again filtered under cover.

Distillation: This method is used in the laboratory when a very pure water is desired. It is claimed that such a water because of the absence of gases, and of solid matter in solution, is not fit for continued use, as it is hard of digestion and flat to the taste. Such water should be agitated with air and charged with inorganic matter to the extent of about 0.03 gram each of calcic bicarbonate and sodium chlorid to the litre.

Filtration: This consists of the separation of all particles of suspended matter without any alteration of such substances as are held in solution. In the filtration of large quantities of water it is passed through sand or charcoal, or through both substances arranged in alternate layers. Charcoal is the more effective of the two, since by its use greater activity in the process of oxidizing nitrogenous matter takes place.

The epidemic of cholera in Hamburg, Germany, in 1892, was due to contamination of the Elbe close to the point at which the Hamburg water supply was taken. Altona, a town below Hamburg, which received its water supply from the same river, and at a point below that at which Hamburg and Altona discharge their sewage, was comparatively immune from cholera. The Hamburg water was delivered unfiltered to the consumers; the Altona water, originally far more contaminated, was filtered through sand before delivery. It was to the careful way in which filtration was carried out that Altona owed its comparative immunity. The outbreak of cholera in Altona the beginning of the next year was shown to be due to the freezing of the upper sand layer of a filter bed whilst it was being cleaned. The frozen layer thawed unequally, and at the thawed places the rate of filtration was too great to insure the thorough cleansing of the water. Koch believes that the real filtering agent is the thick layer of slimy matter which forms on the surface of a filter bed. This gradually becomes so dense that it will not allow the water to pass through and, therefore, has to be removed. The water which first passes through such a cleansed filter, for this reason, is not fit for use, since filtration is imperfect until another layer of the slimy material forms. Koch states that he knows of no filter for household use which can be relied upon to act satisfactorily for any length of time and does not advise any one to trust alone to filters when cholera or typhoid fever is prevalent.

Natural Purification of Water: The water of brooks, rivers and lakes, which has been contaminated by sewage and other organic impurities, becomes gradually purified by natural processes. Suspended particles are deposited upon the bottom and sides of the stream more or less rapidly, according to their gravity and the rapidity of the current. The bicarbonate of calcium, magnesium and iron gradually lose carbon dioxid and are precipitated as carbonates, which mechanically carry down dissolved as well as suspended impurities. The fermentations, oxidations and reductions to which organic matters are subject bring about their gradual mineralization and the conversion of ammonia into nitrates. The processes of nutrition of aquatic plant life absorb dissolved organic impurities, as well as the products of the decomposition of nitrogenous substances. The more contact with the air is favored the more rapidly will this natural purification proceed.

The Purification of Water by Electricity: The Webster method of purifying water has been shown to possess two advantages: first, very little iron is precipitated and its removal not so difficult, as in the case of purification by chemical means; and second, the dissolved organic substances which are not precipitated by any of the known chemical methods hitherto employed are at least partially removed by the electric current. Water subject to this process is purified in a short time, the organic substances reduced about one-half and the suspended substances are thrown to the bottom. This process, however, is not recommended by many sanitarians.

Rain Water: Of all natural waters rain water is the most liable to contamination when brought into contact with lead. Hence, it should never be stored in leaden tanks or vessels, collected from leaden roofs, nor should it ever be drunk after it has been in contact with leaden pipes for any length of time. Therefore, the water drawn from city supply pipes should be allowed to drain off that which has been standing through the night before securing a quantity for use. Spring water is rain water which, having percolated through the soil, has become charged with solid and gaseous matter. It may be considered wholesome when its temperature is less than 68°F. and when it does not contain more than forty parts in a 100,000 of solid matter, provided that the greater part of this solid matter does not consist of salts possessing medicinal action. It must also be free from the sulfids and organic ammonia.

The *London Lancet* reports results of experiments made in London to determine the effect of rain in purifying the atmosphere. Aside from the oxidizing action, and the possible formation of peroxid of hydrogen, a copious rainfall does cause the precipitation of organic and inorganic particles which are floating in the air. Thus an examination of the rainfall near the Strand in London, a densely inhabited portion of the city, disclosed the following remarkable exhibit of grains of matter per gallon of water collected:

Total solid matter	9.100
Common Salt	0.800
Ammonia Sulfate	0.652
Organic ammonia	0.011
Soot and suspended matter	5.000
Nitrates	none
Nitrites	very distinct

The amount of ammonia sulfate is remarkable, but it must be remembered that its chief origin is in the combustion of coal. The nitrites, with traces of ammonia, are due to electrical discharges in the atmosphere. These results are notable: Taking the rainfall at 3.8 inches in five days we arrive at the calculation based on each inch, representing 22,622 gallons falling upon an acre of space. The London County acreage is 75,839, thus 6,437,299,860 gallons of water fell in London in five days. According to results of the analysis given above, this enormous volume of water represents a washing out of 3,738 tons of solid impurities, of which 330 tons consisted of common salt, 267 tons of sulfate of ammonia, and 2,000 tons of soot and suspended matter. It must be remembered that this washing out of the atmosphere is not alone mechanical, physical and chemical, but bacteriological as well.

In view of these facts, it is well to make a note that rain water collected for domestic purposes in cisterns should not be the first that falls, especially in thickly populated districts where coal is largely used, but after the washing out process has been largely accomplished.

Well Water: There is no doubt but that many epidemics of typhoid fever, cholera and other like disorders find their origin in polluted well water. Many of our wells are simply holes dug in the earth and the water that they contain, surface water which has percolated through the layers of earth, corresponding to the depth of the well. It must be obvious that if such wells are dug near dwellings, stables, and the like, their waters are very liable to become charged with the very worst of contaminations, viz., animal excreta. It is a disgrace to the civilization of the twentieth century that a condition attended with such risks should be allowed to continue. In many of our towns cesspools and wells are indiscriminately intermixed and, in many instances, no consideration given to the inevitable results from such a danger. While it is true that sewage and its slow percolation through soil may be filtered to some extent, it is none the less dangerous, even if it should have all the appearances of a clear, fresh and sparkling water.

Numerous laboratory experiments indicate that the specific organisms of Asiatic cholera, typhoid, and other enteric fevers can live in ordinary drinking water for many days. Indeed, it has been estimated that under certain conditions of the water the typhoid germ can live for a period ranging from three to eighty days, while the cholera spirillum under like conditions live for a period ranging from two days to seven months. It must be apparent, then, that during the outbreaks of cholera and like diseases the excretions from persons suffering from these diseases should be made harmless by treatment with some powerful germicide, such as carbolic acid or chlorid of lime, and that such dejecta should never be deposited in the neighborhood of wells or other sources of water supply.

Too much care cannot be demanded in the selection, examination, protection and supply of an article so universally used and in such enormous quantities. The source and its surroundings, the countless opportunities for contamination, the water itself, the method for its distribution, all necessitate the utmost care. While the possibility of these infectious diseases originating in other ways is not denied, the frequent outbreaks of epidemics which are traceable directly and unmistakably to a polluted water supply, imperatively demand of our authorities the supply of pure and wholesome water.

DISPOSAL OF WASTE AND DEJECTA.

The triumph of modern sanitary science is evident from the fact that notwithstanding the ever-increasing segregation in all large cities and towns the rate of mortality if not diminished at all events remains stationary. Under conditions coincident with surroundings lacking in cleanliness and comfort, a stationary death rate should be accepted as evidence of progress. If we bear in mind that the causes of many diseases may usually be traced to carelessness in the disposal of excreta and waste, and thus to the contamination of the water we drink, and of the air we breathe, it must then be clear that the problem of drainage and the disposal of waste and dejecta must be all important sanitary measures. The prevailing opinion that the removal of waste and refuse matter by water is one of the most efficient methods that can be employed in their disposal has, by investigation, been proven false. Water merely removes the nuisance from one place to deposit it elsewhere; it does not obviate the nuisance. Hence, the practice of depositing these offensive matters in our rivers or in the sea is a pernicious one. The epidemic of cholera at Hamburg, Germany, in 1892 (elsewhere referred to) is an example of what may occur from such a custom. Since it has been demonstrated that water by itself has no purifying powers, sanitarians were forced to look to other means for a solution of the problem. It has been suggested that all refuse matter be returned to the earth and there subjected to some chemical action. For obvious reasons this method is objectionable, for where is the sense in accumulating a mass of decomposing organic matter, ready at any moment to burst forth as a veritable hotbed for disease breeding germs? Cesspools should not be tolerated.

To most scientific minds cremation or the destruction of all waste matters by means of the flame appears to be the solution of the problem, and that cremation should be employed not only for the mere disposal, but also for the dust and garbage of towns and cities, as fuel to make steam for electric lighting and other purposes. Experiments in this direction are being made, and the opinion of sanitary experts indicates that this method appears to give promise of satisfactory results. It would seem, therefore, that in this method we have a satisfactory solution of the problem of ridding and appropriating for good the dust and other refuse of our towns and cities.

Water Carriage System: All forms of closets may be classed under heads of closets with valves, closets with traps, and closets with valves and traps. A closet to meet the requirements of an ideal vehicle for the reception and disposal of dejecta must: first, be simple in construction and not likely to get out of order; second, work efficiently with a minimum quantity of water; and third, not allow the collection of gases. If a closet fails to comply with all of these requirements it may prove a positive and dangerous nuisance. All flushes to closets should be delivered from a flushing box and the closet supply must not be obtained directly from the drinking water supply for the house.

The form of closet known as the Pan and Container Closet, which is most frequently found in our houses, is undoubtedly in all its details of construction the very worst. The free flow of water through it for self-cleansing is impracticable for, as a matter of fact, filth tends to collect around and behind the dip pan and there decomposes. The proper shape of a closet should be one with shallow basin, straight back, to avoid soiling, and well made rim flush. This basin fitted over a reliable trap makes a simple, cheap and convenient closet. It is important to have a flush cistern, containing at least two gallons of water, a full sized delivery pipe (1½ inches), while the cistern must be high enough to give sufficient pressure to the water to effectually remove all deposit from the pan and syphon. In this form of basin all uncleansed parts remain in view; whereas, in the case of the Pan and Container Closet, the pan conceals such spots from view. Closets should not be encased within woodwork. They should be supplied with a small hinged rising seat, thus permitting occasional thorough cleansing of the basin and frequently be treated with a liberal supply of a disinfecting fluid, such as crude acid, chlorid of lime, etc.

LONDON LETTER.

SIR DYCE DUCKWORTH, lecturing at the Institute of Hygiene in London recently, in the course of his address paid particular attention to motor cars and to motor traffic generally, regarded from the standpoint of public health. In London, at least, it cannot be denied that motor omnibuses are in many respects an intolerable nuisance and a serious menace to the health of the community at large. These ponderous vehicles frequently travel at a high rate of speed and are dangerous on this account, for the reason that they are sometimes unmanageable, especially in wet weather, when they skid, and are the cause of many accidents. But they are a menace to health, on several grounds. They stir up dust, and in suburban districts are veritable pests because of their dust-raising propensities. Perhaps the most grave charge which can be brought against this form of locomotion is its nerve-racking attributes. Travellers in motor busses are not infrequently considerably shaken, but their sufferings are mild in comparison with the ills endured by the unfortunate dwellers in suburban parts of the British metropolis along the route of these modern juggernauts. Up to a late hour of night the villas which line the roads by which motor busses travel are shaken and the nerves of their inmates harassed and strained by these rumbling, buzzing products of an advanced civilization. Sir Dyce Duckworth did not speak too strongly when he asserted that motor traffic was in most respects an unmixed evil, and was responsible for many of the nervous complaints with which the present inhabitants of British cities are so greatly afflicted.

A few weeks ago a fête was opened at the Mansion House, in aid of the Lord Mayor's Fund for the establishment of homes for the treatment of children in the early stages of tuberculosis. Great Britain has lagged sadly behind most of the other European countries in its efforts to assist the tuberculous children of the poor. France, faced with the problem of a declining birth-rate and tuberculous children, grappled with the situation in a humane and scientific manner, and now possesses more than six thousand beds for its tuberculous and sickly children alone. Germany though not concerned with a falling birth-rate, has established forest schools for such children threatened by tubercular disease. The percentages of reported cures in France are somewhat remarkable. Dr. Armaingand has stated that 32 per cent. of cures are effected in the case of spinal disease, and 53 per cent. in other diseases of the bones, while he considers that an additional 25 per cent. are much improved.

The aims of the scheme proposed in London will be the cure of young persons suffering from elementary tuberculosis. When entire cure is not possible, but in those cases in which the permanent body damage can be only mitigated, the children will receive such specialized technical education as will enable them to become self-supporting citizens.

On June 14 was held in Queen's Hall, London, a meeting of a quite exceptional nature. The meeting in question was called to consider the steps to be taken to protect young children from the disastrous influences that generally surround them in the lower sections of large British cities and of London in particular. The matter has been pending for some considerable time, but as is usually the case in England, little attention has been paid to it, until the problem of how to best safeguard the mental, moral and physical health of the rising generation of British citizens has become so acute that it can no longer be shelved. In a former letter I noticed the efforts made by certain prominent men, medical and otherwise, to check the ever-growing habit in London of women of the lower classes frequenting public houses for the purpose of drinking stimulants and of taking young children with them and encouraging them in the same pernicious custom. The meeting in Queen's Hall was largely attended by distinguished personages drawn from all the professions and from every rank of life. Sir Thomas Barlow took the chair, but the most striking speech from the point of view of public health and hygiene was that delivered by Mr. Pearce Gould, the well-known surgeon. The subject of the speech was the influence of alcohol on infant mortality. Of course, only passing reference can be made to most of the questions discussed in this speech. It was pointed out that the children of drunkards come into the world seriously handicapped, and that not only has alcohol a blighting influence on children before they are born, but it prevents the full development of the nervous system after the child is born. Mr. Gould also showed that there was another side of this question. That alcohol brings children into contact with forms of disease with which they would not otherwise come into contact. The speaker concluded his speech by saying that he had tried not to exaggerate in any way, but that he might say that while there may be some trifling insignificant difference of opinion among medical men as to whether alcohol is wholly injurious to adults, there is none whatever as to its terribly injurious effects on infants and children.

The following resolution was passed:

"That this meeting strongly supports the draft bill prepared by the committee, which restricts the sale of drink to children, and provides for their exclusion from premises licensed for the sale of intoxicating liquors, and the meeting hereby calls upon the Government to embody these provisions in their forthcoming licensing legislation."

Cerebrospinal meningitis has decreased in Belfast, but is by no means at an end. The total number of deaths since the beginning of the outbreak is 350. The cases are milder in type, and it seems as if the worst of the epidemic is over.

It has been announced that a conference on sanitation and public health is to be held by the Royal Sanitary Institute in Trinity College, Dublin, from June 25 to 29.

The Red Cross International Conference, which held its quinquennial meeting in London for the first time, discussed many subjects of interest. The chief feature of the meeting was the proposal which appeared to meet with the approval of all the delegates that the Red Cross Society should not confine its efforts to the time of war, but should fight such diseases as tuberculosis in time of peace.

Count Cseknonics (Hungary) moved a resolution declaring that Miss Florence Nightingale merited from the conference both the heartiest recognition of her great services and the establishment of a Nightingale Fund for an international commemorative medal, to be awarded to women specially skilled in nursing.

The King and Queen gave a reception to the International Red Cross delegates at Buckingham Palace.

Major R. J. Blackham, D.P.H., R.A.M.C., read a paper before the British Royal Sanitary Institute on May 31 dealing with infant mortality and its prevention. He classed the necessary preventive measures under three heads—those directed towards the mother, those directed towards the child, and those requiring special statutory powers. As regards the mother, he insisted on the extreme importance of educating elder girls in the care of infants and young children to fit them for their future responsibility. Major Blackham suggested that instruction on these matters should be given under the supervision of medical men and specially trained nurses, and that the Royal Sanitary Institute might issue a certificate in infant hygiene to qualify nurses for such appointments.

DIABETES.

By Dr. Arnold Lorand, Carlsbad, Austria.

Resume of an address delivered at a meeting of the Toronto Medical Society.

Diabetes appears generally in people who are fond of rich food, especially of much meat and carbohydrate. Under such conditions it will develop the sooner in people whose work causes a strain upon their nervous system, such as lawyers, physicians and diplomats. It is interesting to note that diabetes develops spontaneously in dogs only when they are fed with albuminous and sweet food, and more readily if the animal be of a nervous temperament, like a fox terrier. This kind of food in large quantities may exercise, after a certain time, a deleterious action upon those glands which control metabolism, like the thyroid and the pancreas. By experiments which he has made in company with Professor Minkowski, Dr. Lorand has found that in dogs, whose pancreas has been extirpated, the thyroid shows histological alterations, indicating a condition of hyperactivity, like that found in Graves' disease, or by Chalmers Watson in fowls which have been fed exclusively on raw meat. Before Chalmers Watson, Dr. Lorand found by clinical observations that abundant meat food exercises a deleterious action upon the thyroid. On the other hand, it has been found by Toboleff that rich carbohydrate food induces a degeneration of the islands of Langerhans in the pancreas, to which, according to the vast majority of authors, is attributed an important rôle in the development of diabetes. According to the researches of Dr. Lorand, diabetes is due to two main causes, viz., degeneration of the pancreas; second, hyperactivity of the thyroid. Diabetes after mental emotion is due to subsequent alterations of the thyroid, which may go so far that even Graves' disease might come on suddenly after such a cause. It is a fact that glycosuria, or diabetes, is very frequent after all conditions of hyperactivity of the thyroid gland, whereas in the opposite condition, myxedema, it is impossible to produce even alimentary glycosuria after the largest doses of glucose. All diabetic dogs have entirely lost their sugar after extirpation of the pancreas.

It is an important factor to detect diabetes in its beginning. Many diabetics show no subjective symptoms whatever of their disease, not even thirst. The urine of each patient should be examined, no matter what his ailment. It is necessary to give a test dinner in case no sugar is found, taking into consideration that many light cases of diabetes do not eliminate any sugar even for months. By giving a test dinner of ⅔ ounces of grape sugar two hours after breakfast, the life insurance companies could be protected from severe losses. Diabetes treated from the beginning is very promising. The main object is to prevent the appearance of diacetic acid, as it is this substance, with following acid intoxication, that ends the life of diabetics. To prevent it no severe diet should be given, as exclusive diet of meat and fat surely might bring it about after a certain time. Meat should be limited in every case, especially in severe cases. The diet should be mixed, little meat, green vegetables, a few eggs, cream, and, in severe cases, much milk and no meat. Apples, peaches and oranges, in certain quantities, are much recommended. Bread, grahambread, should always be given. In severe diabetes much alkali should be given, especially by the rectum, so as not to injure the stomach. Carlsbad waters might give good results, especially in cases without cachexia. In severe cases, although the symptoms will get better, the sugar may sometimes persist and also diacetic acid. Drugs are no use for a long continued treatment, but antithyroidin may influence beneficially, especially the nervous symptoms.—*Canadian Practitioner and Review*, March, 1906.

TOXEMIA OF PREGNANCY.

Dr. Jordan, of Birmingham, in the *Journal of the A. M. A.* of April 27, limits the discussion to that symptom complex due to toxemia in pregnancy which is responsible for the pernicious vomiting and acute yellow atrophy and not to eclampsia. The most pronounced post mortem finding of toxemia is degeneration and necrosis of the parenchyma of the liver. He discusses the results of many investigators as to the cause of the fatal liver changes, excess of bile acids in the blood, self-digestion of the liver, failure of anabolic process on one hand and autolysis on the other are some of the theories advanced. The tendency of toxemia cases to become worse after delivery is explained by the great amount of toxins that are in the walls of the gravid uterus and must be thrown off during its atrophic process. This fresh supply of toxins thrown suddenly into circulation proves too much for the neutralizing power of the liver. In contemplating abortion allowance must be made for this increase following and less time should be lost.

Dr. Jordan takes issue with Ewing, who considers eclampsia, acute yellow atrophy and pernicious vomiting to be manifestations of the same toxemia. Dr. Jordan notes differences both in symptomatology and prognosis since eclampsia always improves after emptying the uterus.

More important symptoms are vomiting of the pernicious type rather than reflex, headache, neuralgia, epigastric pain, salivation, air hunger, extreme mental depression, edema of extremities or face. Albuminuria is a variable finding. Diagnosis has been facilitated by the discovery by Williams of the significance of an increased percentage of ammonia in the urine. Palliative treatment is useless unless begun very early and directed against both the toxemia and liver insufficiency. Dr. Jordan advocates radicalism and the immediate emptying of the uterus as soon as the diagnosis is made.

Dr. William H. Wells, of Philadelphia, discusses the same subject in the *Therapeutic Gazette* of April, based on a study of 78 cases. He considers the condition as one of autointoxication due to incomplete metabolism. Chronic gastro-intestinal indigestion, overfeeding or starvation, alcoholic stimulants, grief, worry and even chilling of the skin have been given as predisposing factors.

In his series the average time was between 7½ and 8½ months. Frontal headache, spots before the eyes, dizziness, failing vision, retinal hemorrhage and noises are among the common symptoms. Marked jaundice is rare, having occurred but twice. No constant changes in size of liver could be noted. Constipation. Urinalysis shows decrease in amount of urea and frequent presence of albumin. The sudden dropping of urea percentage below 1 per cent. is a danger sign. Heart action and tension increased and an accentuated second aortic sound. Dr. Wells does not mention vomiting as a symptom, and lays more stress on albuminuria than does Dr. Jordan.

Dr. Wells' treatment is essentially eliminative, lavage, purging, diuretics, diaphoretics and attention to clothing and diet. He stated that a forced induction of labor should not be considered except as a last resort, and he does not mention or explain the increase of symptoms following operation.

BUTTERMILK FEEDING.

Dr. Carpenter, of Philadelphia, in *Journal of the A. M. A.*, May 11, reports several cases of infantile disturbances in which recovery was due entirely to the use of buttermilk mixture. His plea to the profession for its use is based not so much on the absence of fat as on the great ease with which the proteid of buttermilk is digested. The relative proportion of casein and albumin in buttermilk differs according to whether cream or milk is used to make the butter. Casein in sweet milk is changed from calcium casein to casein lactate in the buttermilk. He gives the following directions for home manufacture of buttermilk: A quart of sweet milk poured into a sterile pitcher over the top of which is placed a sterile towel to keep out dust. This is allowed to stand at room temperature (65-70° F.) for 24 hours, when cream is skimmed off. The sour milk is churned for fifteen minutes in small glass churn, then placed on ice and ready to use for buttermilk mixture, which is made by adding to one quart of buttermilk 3¾ teaspoonfuls of wheat flour, and 15 teaspoonfuls of granulated sugar. To be cooked in double boiler up to boiling point with constant stirring to prevent curdling. This is placed on ice and stirred and warmed when needed.

The cases reported are those in which other modifications had been used without success before buttermilk was tried. Cases of marasmus gained 1½ pounds in ten days, cases of gastroenteritis, infantile atrophy, acute enteritis, rickets, all showed satisfactory gains on buttermilk diet. One case of rickets in a syphilitic child continually lost weight on the usual modifications, but gained 2 pounds 10 ounces in three weeks on buttermilk.

NUTRITIONAL DISTURBANCES IN INFANCY DUE TO OVERFEEDING.

"Overfeeding," as used by Dr. Brennemann, of Chicago, in the *Journal of the A. M. A.* April 20, is giving an infant too great a quantity of good milk, although not necessarily at too short intervals. The symptom picture shows restlessness, constipation, pale gray, hard, dry stools and strong ammoniacal odor to urine. We can also notice evidence of disturbance of nutrition. The child becomes pale, tissues lose their tone, abdomen becomes soft and distended with gas, and what is most striking the child begins to lose weight. Later results are atrophy and marasmus. Acute gastrointestinal disturbance may occur suddenly at any time with its accompanying vomiting, diarrhea, prostration and fever. Rickets, eczema and anorexia may be results of overfeeding.

He concludes that fat is the disturbing element, as is shown by the large amount of insoluble salts of fatty acids found in the stools and by the increase of symptoms on increasing fat and *vice versa.* After citing several cases he shows that an immediate decrease of amount of fat followed by a graduated milk diet with very little fat is the only rational treatment.

PROBLEMS OF CAR SANITATION.

DR. CROWDER, of Chicago, in the *Journal of the A. M. A.,* May 11, 1907, lays the blame of unsanitary cars as much on the travellers as on the cars. It is true we are in danger of contracting disease both directly from fellow passengers and also from cars infected by previous passengers and from use of common facilities, such as wash basins, towels, cups, etc. The danger of smallpox, scarlet fever, diphtheria, etc., is less than from influenza, tuberculosis and the like coming from people who although infected are still able to travel. Many methods of preventing infection are discussed, but the only proper solution of the problem seems to be through legislation, making it a misdemeanor for an infected person not to declare his disease when applying for transportation.

The car companies furnish clean cars and clean utensils at the beginning of each run, but they become contaminated through carelessness and ignorance of the passengers. The wash basin and drinking cup would lose their danger if people would simply rinse and wipe them after using. Collection and examination of dust found in cars shows relatively no more bacteria than an equal amount of dust in our homes. The dust arising from road bed is being laid now by sprinkling with oil. The Pullman service has incorporated methods of sanitation, especially linen and hangings. It now depends on legislation and education of the people to keep the cars clean and prevent infection.

HYGIENIC TREATMENT OF PULMONARY TUBERCULOSIS.

DR. H. C. CLAPP, of Boston, in *Medical Record* of May 4, lays great stress on attention to detail Good care at home and absolute obedience to orders in the treatment of pulmonary tuberculosis is more important than climate without care. He suggests tuberculosis classes where several patients live in the same vicinity, and at each class meeting patients bring record books showing temperature, pulse, exercise, rest, etc. Patient should be instructed in detail as to his outdoor life; not dangerous to have drafts provided it is in open air; do not expose head too long to direct sun's rays; no danger from night air or rain if patient is properly protected. Outdoor life in winter is best although hardest to enforce. Location for sitting should face south, be protected from wind and exposed to sun. Reclining chair with legs horizontal is easiest position to maintain and keep the feet warm. Clothing most important. Wear the lightest weight with greatest possible warmth. Change clothing according to weather. Have hunter's leather jacket for walking and fur coat for sitting, fur cap, gloves or mittens, arctics or heavily quilted foot muffs. For bed clothing he recommends down puffs in preference to old-fashioned heavy comforters. His illustrations of cheaply built but very effective porches are full of suggestions as to location with regard to wind and sun and convenience to dressing and bath rooms. In exercise and rest each case must be individualized. More deaths are caused by overexertion than anything else. Never exercise to point of fatigue; no exercise if temperature is over 99.5. If rest is needed it should be mental as well as physical.

EYE AND EAR COMPLICATIONS OF INFLUENZA.

DR. GRAEF, in *Medical Record,* April 27, summarizes the more frequent complications of eye and ear in influenza, and gives us the pleasing report that the more serious the complication the less often is it seen. Conjunctivitis with mucous or muco-purulent secretion, croupous and even diphtheritic conjunctivitis, catarrhal inflammation and sometimes edema of the conjunctiva are seen. Hemorrhages are especially liable to happen in older persons. Herpes on the lips are common and sometimes occur on eyelids; these may go on to ulcers. Inflammation of mucous membrane of the frontal sinuses is found in some cases and causes aching pain and tenderness in the eyes. Glaucoma is rare. Nervous disorders are found in cases of protracted convalescence.

Ear complications are much more common than eye, mastoiditis is a frequent occurrence, and is usually followed by rapid destruction of bone. These are due to the pronounced catarrh accompanying the disease continuing from nasal sinuses into eustachian tubes. In treatment of ear complications we are warned against waiting for spontaneous rupture of tympanum and against the use of sweet oil and laudanum. The best line of treatment is to put a gauze drain soaked in glycerin against the drumhead. Dullness of hearing, stuffiness in the head and tinnitus are easily cleared up by inflations by a catheter.

PUS TUBES IN THE MALE.

According to Dr. Belfield, in *Medical Record* of May 4, pus tubes occur in seminal tubes as frequently as we find the fallopian tubes infected in the female. Infection is from three sources, gonococcus, pyogenic bacteria and tubercle bacilli and result from gonorrhea, stricture and prostatic concretions. A stricture may cause abscess through lack of nutrition, and if discharge finds its way to the meatus may simulate gonorrhea. Hard to differentiate a pus tube from prostatic hypertrophy, as symptom pictures are almost identical. pyuria, frequent and painful urination, partial or complete retention of urine. Several operations discussed and criticised. The author's operation is recommended for ease and simplicity and can be done in the office. It consists of opening the vas deferens, stitching cut edges to skin and injecting daily the usual gonorrheal injections through a curved hypodermic needle.

PNEUMOCOCCUS TOXIN.

Macfayden, Kings College, London, obtained through maceration of blood-agar mass cultures of pneumococci in 1:1000 K O H solution, centrifuging and bougie filtering an endotoxin which killed guinea pigs and rabbits, when given intraperitoneally, in relatively small doses 0.05 c.c.m. of one preparation being fatal to a pig. Animals died of acute toxemia in from 12 to 18 hours; post mortem indicated acute pulmonary congestion. The toxin contains 5.0 mg. of solid per c.cm., is sensitive to heat and deteriorates on prolonged exposure to chloroform.

THUMB REPLACED BY A GREAT TOE.

A man who had lost his right thumb while a child was treated by Krause (*Presse Médicale,* No. 93, 1906) in a novel manner.

He first cut the skin of the stump and freed the dorsal tendons. Then cut the skin and tendons of the dorsal surface of the great toe of the same side and resected the end of the metatarsal, so that the first phalanx could be applied to the end of the metacarpal of the thumb. The dorsal tendons and skin of the thumb were then sutured to those of the toe. A dressing was applied to hold them in position and was left seventeen days. The operation was then completed by section of the ligaments and palmar tendons and skin and the suture of the corresponding parts. The result was excellent and the new joint was freely movable, but further exercises will be required to make it strong enough to be useful.

VICIOUS CIRCLES.

According to J. B. Hurry, *British Med. Journal,* a vicious circle is a morbid condition in which cause and effect are so correlated that cause becomes effect and effect cause.

He groups the vicious circles thus: 1. Organic: An example is seen in acute pneumonia. Dilatation and consequent heart failure are one of the chief dangers, being caused by the increased resistance in the solidified lung. This retards the circulation through the lung, hence throwing more work on the heart, which is already impaired. 2. Symptomatic, *e.g.,* pulmonary hemorrhage sets up coughing; result of cough is increased hemorrhage. 3. Infective: Frequently in pulmonary tuberculosis the patient inoculates himself afresh with sputa from the primary tuberculous lesion. 4. Neurotic: In neurasthenia protracted and uncontrolled repose may set up a vicious circle by so deranging the digestive system and affecting the general health that all inclination for physical and mental exertion vanishes. 5. Chemical: A chemical vicious circle occurs in diabetes mellitus, in reference to the two important conditions of polydipsia and polyuria. The polydipsia leads to dilution of the patient's blood, and thus promotes the excretion of sugar and the associated polyuria. The polyuria, on the other hand (by depriving the system of a large quantity of fluid), leads to greater concentration of the blood, and consequently to thirst and polydipsia. 6. Mechanical: A retroverted gravid uterus becomes so impacted in the pelvis as to press on the urethra and cause retention of urine. The distended bladder increases the retroversion and the impaction; the retroversion increases the retention. Similar effects may be produced by myomata or other pelvic tumors. In ascites pressure on the renal veins may lead to ischuria, which in turn aggravates the ascites. 7. Artificial: Alcoholism frequently induces anorexia. This is followed by exhaustion and tempts the victim to seek relief in further indulgence. Again, a miserable home drives a laborer to the public house and to alcoholism, with the result that he has less money than before to maintain his home, which consequently becomes still more miserable. In the case of chronic poisoning of infants by opiates, the child, when not under the influence of the sedative, is irritable and sleepless. Hence the mother finds an excuse for continuing the drug, and the vicious circle is complete. 8. Spurious: A so-called vicious circle is occasionally met with after the operation of gastroenterostomy, when the contents of the afferent end of the jejunum (that is, the segment above the artificial opening), instead of passing into the efferent segment, return through the artificial opening into the stomach and set up regurgitant vomiting. Or the contents of the stomach may pass into the afferent loop and back into the stomach instead of escaping through the efferent loop. A "short-circuiting," in fact, takes place, leading to grave difficulties for which a complementary enteroenterostomy may be required.

"WHEN TH' FEVER'S IN TH' BLOOD."

Ain't fel right pert fer a week er two;
Been sorter cranky an' restless an' blue;
No p'tickler reason, es I ken see;
Can't find enythin' specially wrong wi' me;
Jes' don't feel frisky an' don't wanter do
A goldarn thing thet I don't hev to;
Food don't taste jes' 'xactly right;
Sleep is kinder broken up at night;
Don't wanter set still, an' don't wanter walk;
Don't wanter keep quiet, an' don't wanter talk;
Nothin' t' hinder me from doin' jes'
Th' very thing thet 'll suit me bes';
Yet when I'm doin' jes' what I wanter to,
I find it's jes' what I don't wanter do.
Now I wonder
What's th' matter
Wi' me, by thunder?
'Tain't fever, sure—fer my heat ain't riz;
'Tain't biliousness; ner rheumatiz;
'Taint my head, fer I think right smart;
'Tain't my liver, ner yet my heart;
'Tain't stomach, ner gout—then goldarn me
'Taint nothin' at all, es I kin see.
En yet it's somethin'—guess I'll go
An' see th' doctor; he'll sure know.

Seems to' me I remember this very same thing
Come on about this same time las' spring;
An' th' doctor doped me with nasty stuff
By th' gallon, an' I bought drugs enuff
T' start a store; but Lordy, they
Couldn't drive that gnawin' inside away;
Somethin' jes' a-gnawin' at my innards—th' same
Symptoms thet I hed when th' las' spring came.
Gosh! what's th' use o' seein' th' doc?
He ain't got nuthin' et all thet'll knock
This here trouble thet allus comes
When th' birds all sing an' th' honey bee hums;
When th' ice breaks up, an' th' streams all roar;
An' th' soft air blows through th' open door;
When th' vi'lets come, an' th' grass blades sprout,
An' th' sun gits warm, an' th' buds break out;
Lemme tell you this—when th' world gits green
An' a feller gits ornery, restless an' mean,
Thar ain't no doctor in eny place
Es kin properly diagnose his case.

The on'y cure fer a man I know
Is t' git right out o' town an' go
Where th' wil' ducks swarm an' th' geese go by,
An' th' trout an' bass are a-jumpin' high;
Th' on'y thing thet'll cure him then
Is t' git away from his feller-men,
An' loaf all day by some laffin' stream,
An' fish an' whistle an' sing an' dream,
An' listen t' birds an' bugs an' hear
Th' voice of the woods in his eager ear,
An' smell th' flowers, an' watch th' squirrels,
An' cast a fly where th' eddy whirls,
An' fergit that there's cities an' houses an' men.
Fergit thet he's got ter come back agen.
Fergit, when on moss-grown bank he's curled,
Thet thar's enythin' else in th' whole wide world
But jes' him, an' th' birds an' th' bugs an' things
Thet live right thar where th' wild stream sings.

—*The Outing Magazine* for April.

"Dear little traveller from No-where-land,
I send you this greeting with right good will;
I'm waiting to grasp your little hand
When you come from the city of Babyville.

You'll be tired I know and need to rest,
For the way has been long and sometimes drear,
But you'll lay asleep on your mother's breast,
And we'll all love you when you get here.

So come little traveller and don't be long,
Come and we'll welcome you with a will;
Uncle will sing you a lullaby song
When you reach here a stranger from Babyville.

Not knowing your train-time, I may be late,
But don't cry, little one, have no fear;
There'll be loved ones watching just by the gate
When you come from the No-where into the here."

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by FRANKLIN W. BARROWS, M.D.

HOME VERSUS HOSPITAL.

If all the poor folk and the near poor in any of our communities should take a notion to go to the hospital whenever helplessly ill, what would happen? A wise dame has suggested that to solve the problem of the best care of the sick poor it is necessary only to "educate" them to patronize the hospitals when they need a cure for their diseases. What if this wise one should wake up some morning and find that the populace were acting on her advice?

But we needn't worry over the answer to this problem, for society is so constituted that a large proportion of the sick and helpless—whether educated or not—still insist on the right of being sick in their own homes, if they have any. Those who are conversant with the circumstances, and best able to judge of the wisdom of such a course, have told us over and over that the demoralization of a family often dates from the day when the mother or the father or one of the children was taken to the hospital because the family was unable or unwilling to assume the responsibility of caring for its own at home. The only strong and self-reliant member may be prostrated, to be sure, and yet his or her presence in the home may be the one essential link in the chain that binds the family in unity.

So, then, if you would be a genuine friend to the poor in their sickness you will not beckon them on to the hospital—particularly if you have "standing room only" in the hospital—but you will offer your services in a practical way in their homes. Help them to solve the double problem of restoring the sick and conserving the home. Act on the principle expressed by Dr. Elliott P. Joslin in addressing the Instructive District Nursing Association, of Boston:

> Your charity does not pauperize, but rather prevents pauperism. Your nurses enable the heads of the family to keep at work and maintain the rest. Again, it is not the patient alone, but the friends and relatives who are helped by your nurses' visits. I believe, and to some extent know, that sickness causes more suffering to the friends than to the patient.
>
> The Instructive District Nursing Association preserves the family. It enables those incidents—births, illnesses, and deaths—to take place at home; thus family ties are strengthened, sympathy is awakened, devotion called forth, and responsibility placed where it belongs. As soon as the patient is removed to the hospital, the advantages of these qualities in preserving the family ties are in great measure lost.
>
> Home nursing, therefore, I believe to be the chief mission of your society. *"Caring for the sick poor at their homes"* is the phrase used in your act of incorporation. Other lines of work may appear attractive, but I beg you cling to your first mission. Do not be reformed out of it.

Dr. Joslin could have clinched his argument by quoting many a case from the hundreds that were in charge of the nurses to whom he was speaking. Here is one, reported by Miss Charlotte Macleod, the Superintendent of the Association's School of District Nursing:

> Mrs. B.'s eighth baby was born on the 5th, and the doctor telephoned for a nurse to be sent to her the next morning. She reaches the house about 8.30. The husband has gone to work, not having dared to remain at home lest he should lose his job. The fire is low, the mother has had no nourishment since the evening before, the children are unwashed and

> uncombed, and disorder reigns everywhere. On the ninth day the superintendent goes in and finds that nurse is about leaving to go on to her next patient. There is an ideal sick room, clean and well aired, the mother and baby looking very comfortable. The kitchen, too, is in order, the thirteen-year-old daughter putting away the breakfast dishes, which she had finished washing and drying, and the little girl next in age peeling the potatoes for dinner.

Boston has many excellent hospitals, and yet the district nurses have more than they can do in their own lines of usefulness. In proportion as the workers become more efficient their opportunities for service are increased. So it is and so it will be wherever the visiting nurse makes her advent.

THE HUMAN QUALITY IN NURSING.

Ever and anon a discriminating and exacting public finds something to criticise in the nurse, as well as in every one else. And nurses, like other mortals, will be no worse off if they hear the critics occasionally and ponder on their plaints.

A chronic invalid writes to a nursing publication that she finds most nurses too narrow, dull and uninteresting to be acceptable companions, albeit they are kind, attentive and quite professional in their bearing.

With all due allowance for the almost inevitable crankiness of a "chronic," must we not own up that we have all seen nurses of whom we suspect these very criticisms to be true? As for the patient's point of view, she may tolerate all sorts of faults in her doctor—fear him for his bluntness, respect him profoundly for his taciturnity and swear by him through thick and thin because she can't possibly understand him—but she will insist that her nurse shall be sweet and companionable, bright and "interesting."

Let us not find fault with these requirements of society. It is far better that we should conform, if we can; and usually there is a way. The patient has a right to ask for companionship in the nurse. The nurse is there, to be enjoyed or endured, all day and every day. The doctor comes occasionally and is soon gone.

If you would not lose your hold on the very ones who can help you most in your professional career and if you would not sacrifice some of the keenest pleasure of human fellowship, take care that you shall not become dulled and devitalized by the drudgery and routine of your life. Cultivate human interests and sympathies. Make heroic efforts, if necessary, to be the acceptable companion, as well as the skillful nurse.

To this end you must make use of your friends, your leisure, your ambition. Break away from the harness and the ruts often enough to keep the world of other people in view. Hear a good speaker once in a while. Read a good book often. Keep up with the times by reading something fresh in current literature. Of course you will need a professional journal also. You'd better read several nursing periodicals, for they are not all alike.

THE PARIS CONFERENCE OF THE INTERNATIONAL COUNCIL OF NURSES.

The latest numbers of the *British Journal of Nursing* bring us glowing accounts of the "magnificent success" of the third conference, which opened on June 18. The nurses in attendance represented fourteen different countries, the meetings were characterized by earnest enthusiasm and the receptions were appropriately Parisian. As one of the American delegates said, it was "without doubt the most representative gathering of women that has ever come together to discuss matters relative to the care of the sick."

The courtesy and hospitality of the French people were gratefully acknowledged on all sides. Their cordial interest in their guests was manifest throughout the meetings of the conference and most gracefully expressed at the closing banquet, when

M. Mesureur, Director-General of the Assistance Publique, proposed the last toast of the evening in these words:

> But, as you are leaving us, allow me to propose a toast to all our Fatherlands, to all the countries which we love, too numerous to mention individually. To all, from my heart, I address a fraternal greeting. Frontiers do not exist for nurses. People suffer in America, in Oceanica, as well as in France. Misery exists for the unfortunate ones of this life on all shores, and this is the tie which unites us—humanity. When a human being succumbs to illness, or is lying in a hospital ward he has no country. It will always be a great consolation to us—the great teaching of your Congress—that we are compatriots of the same country, of the country where men suffer, and, alas, die also, the country of misery and sickness. From your association the great family of nurses will arise stronger and more united. Its members will aid one another in fighting evil, in banishing hate. This great fraternity of the peoples will hold out its hand to assist, to help, and to heal.

Fraülein Agnes Karll, president of the German Nurses' Association, succeeds Mrs. Bedford Fenwick as president of the International Council of Nurses. The Hon. Treasurer, Miss Margaret Breay, and the Hon. Secretary, Miss L. L. Dock, were reelected. There is a strong sentiment in favor of Stockholm as the place of the quinquennial meeting, which will occur in 1909. At this meeting Mrs. Hampton Robb, of Cleveland, will present a paper on an "International Standard of Education for Nurses."

THE NURSE AS A SOCIAL WORKER.

THE National Conference of Charities and Correction, which met last June in Minneapolis, had the effect of making the profession of nursing appear bigger and more important than ever. Experts in several lines of sociologic betterment counted the nurse—especially the visiting nurse—as one of the chief allies of organized charity in promoting social as well as personal health. There seemed to be no uneasiness in the minds of these laymen as to the overtraining or the undertraining of the nurse; apparently they will leave the question of her preparation in the hands of her present educators, with no misgivings. But they expressed the greatest concern as to the way in which the nurses of to-day are making use of their unsurpassed opportunities for personal service. Are our nurses doing their best to educate their charges in hygiene, housekeeping and home-making? Do they co-operate intelligently and sympathetically with the various other agencies that are working out the social betterment of our people? These are the questions that the conference raised and that, in not a few instances, it was able to answer with credit to the nursing profession.

"We get the idea of social service pretty well pounded into us in the course of our training," remarked a graduate of one of our best schools of nursing; and she looked a bit rebellious as she said it. For why should the girls who nurse diseased "cases" have larger demands made on their time and cash in the interests of humanity than their sisters who trim hats or give music lessons for a living?

You will get your answer to this question out of your own individual experience, as you meet the varying demands of one "case" after another, and either accept or repudiate the extra obligations which your work seems to lay upon you. But, whether you choose to align yourself with the social and civic factors that strive against poverty, crime, ignorance and misfortune, or whether you resolve to just "stick to plain nursing," you will certainly have no mean idea of your profession when you realize that society, or rather, that moiety of society that does something, is disposed to hold the nurse to a strict account of the way in which she responds to the cry of our people.

THE life of every day would be a pleasure if we would permit ourselves to thoroughly enjoy the work in hand, and keep our friendships in repair.—*Men of Buffalo.*

CLINICAL DIAGNOSIS FOR NURSES.

By Albert T. Lytle, M.D.,
Buffalo, N. Y.

(*Continued from page* 369.)

As the sense of seeing originates in the eye, hearing in the ear and smelling in the nose, so the sense of taste resides in the tongue. A substance to impart taste must come in contact in solution with the "taste buds" of the tongue; from this fact can be understood the advantages and the disadvantages of the various forms in which medicine is administered—pill, powder, syrup, elixir, solution and so on. The character and intensity of the impression varies as the substance, the degree of dilution and the responsiveness of the nerve terminals in the taste buds. The tastes imparted by various substances are finally classified as salt or sour, bitter or sweet in character, and as strong or weak in intensity.

The sense of taste may be impaired or perverted. Loss of taste is sometimes associated with an impairment of the sense of smell, so frequently seen in "colds in the head." The taking of certain drugs, especially the bromids, blunts the sense of taste. Complete loss of taste often accompanies such nervous disturbances as hysteria, while tumors and other brain disease may cause the sense to be absent from one side only. Bad and perverted tastes may also be present in similar nervous disorders as well as in abnormal alimentary conditions, *e.g.*, a metallic, coppery taste is a sign of a "bilious" attack, while true jaundice gives rise to one of bitter. Naturally a badly furred tongue causes perversion of taste. Again the elimination by the salivary glands of certain substances from food and drugs also influences the taste, as a diet of onions or the taking of valerian sometimes flavors everything with the special flavors of these substances.

PHARYNX.

The "pharynx" is usually spoken of as the throat; it is roughly speaking an irregular rectangular prism, the base being the openings into the larynx and the esophagus; the posterior wall being formed by the bodies of the cervical vertebrae; the top being the vault of the naso-pharynx; the anterior wall being the openings into the nose and the mouth; the side walls being formed by the various muscles of the neck. All solid portions are covered with mucous membrane continuous with the linings of the adjacent spaces and organs, richly supplied with glands and blood vessels. Intimately associated with this space and lying on either side of the opening into the mouth near the base of the tongue are the "faucial tonsils," while separating the nasal from the oral portion and continuous with the roof of the mouth is a veil-like sheet of tissue having a central tongue-like projection (uvula) known as the soft palate—the "vellum palati;" this palate acts as a door, closing the mouth while breathing through the nose, and as a trap door, closing the naso-pharynx while swallowing. The lymph glands on the back wall of this box are called "adenoids" or the "pharyngeal tonsil." Into the pharynx open directly or indirectly a large number of tubes and spaces—the "windpipe," the "gullet," the "mouth," the "nostrils," the "Eustachian" tubes, the orifices of the cavities in the bones of the face and skull, which spaces are known as the sinuses, the "lachrymal" ducts, and the mouths of the tubes of the mucous and lymphoid glands, including those of the tonsils. It is thus seen that affections of this union-station cavity may readily extend into various important structures, including the organs of special sense and the brain.

Only so much of this box as lies directly back of the tongue can be easily seen, and in the majority of cases the tongue must be depressed in order that anything at all may be seen. Under the head of respiration the phenomena shown by that portion of the pharynx back of the nose, the "naso-pharynx," were discussed.

Usually any active inflammatory process going on in the lower portion of this box from any cause whatever produces what is complained of as a "sore throat;" swallowing alone may bring out this complaint, or it may add materially to the discomfort. Also, nearly all abnormal conditions of this region, but more especially catarrhal affections and elongated uvulae, cause cough as mentioned when cough was under consideration.

It is highly important to be able to see the fauces and pharynx in children. To do this requires, if the child be strong, vigorous and undisciplined, two people, one to hold the child, the other to make the observation and incidentally to give the local treatment. The first requisites of all are kindness, gentleness, patience and firmness; the next one is honesty; do not deceive a child about the pain or hurt of a procedure. The person who is to hold the child should sit facing a good light, should take the child in the lap with the legs down between the holder's knees; the child's back should be held firmly against the holder's body by the aid of one arm, which at the same time should gently pinion the little patient's arms; the free hand should press the child's head against the holder's shoulder or under the holder's chin, so as to keep it reasonably still with the mouth toward the source of illumination. The examiner with the instrument which is to be used as a tongue depressor, preferably a smooth-handled firm teaspoon handle, gently presses down the tongue, if possible, so as not to gag the child, taking several short looks rather than one long one and allowing the child full liberty between observations; often the child can be taught to use the depressor and its finger makes a good one; this procedure interests the patient, does away with restraint and permits of good observations. Should the child refuse to open its mouth, gently insert the handle between the teeth at some convenient point until the depressor gently touches the back of the tongue, which will cause the child to open its mouth to gag, when a hasty inspection may be made that can be easily repeated, or else the depressor may be pushed along the cheek until back of the teeth and then proceed to gag, when the child will open the mouth and allow an observation. When the child cannot be restrained in this way, a sheet wound tightly about the body, including arms and legs, will control the limbs so as to allow both hands to hold the head; this is far less cruel and hurtful than to exert great muscular power to control the naturally frightened and resisting child. Where artificial light is required, the light reflected from a candle into the mouth by means of an ordinary hand-mirror is quite sufficient for the ordinary observations demanded of the nurse.

The mucous membrane of the tonsils and pharynx is normally even, glistening, smooth and shell-pink; any deviation from this is abnormal but not necessarily pathological. Marked redness may be due to tobacco smoking, to other catarrhs or to the presence of so serious a disease as scarlet fever; it is also present in the other exanthemata. This condition in children is a suspicious one and requires the prompt presence of the physician, emphatically so if other symptoms show that the child is sick. Injection of the blood vessels with swelling of the little glands and a more or less dry look is usually due to catarrhal conditions; a swollen appearance with surfaces bathed in muco-pus is also catarrhal; owing to the intimate relation of the various tubes and sinuses, especially in children, these affections should receive careful attention from the physician, so that such complications as middle ear disease with its possible train of terrible consequences may be avoided. The presence of white or gray patches on the walls of the throat is always a suspicious circumstance, and such an occurrence should be reported to the doctor at once, for they may be evidences of diphtheria to successfully combat which the treatment should be begun more than promptly—a mild attack in one case may give rise to many malignant ones if not properly isolated, so an error of judgment on the safe side is far better than regret on the wrong side.

Normally the "tonsils" are almost invisible. They flank the base of the tongue on both the right and left sides between two folds of tissue known as the "anterior" and "posterior pillars" of the "vellum palati;" they are oval in shape with several little pits scattered over the surface—the orifices of the canals leading into the body of the organ. The tonsils when enlarged may be felt externally as lumps just beneath the angle of the jaw, the chin being raised; when normal they are not palpable. They may be so much enlarged as practically to prevent a view of the posterior wall of the pharynx and when greatly enlarged they give rise to a muffled voice. These organs are subject to all kinds of inflammation and are often the only cause of pain and soreness of the throat; when alone involved the trouble is called a "tonsillitis." Patches of white may show at the mouths of the canals, or membranes may cover the entire surface; these may be simple inflammatory products or they may be diphtheric; one or both may be involved. Such conditions demand the attention of the physician to correct, and especially so in children.

Very frequently the uvula becomes relaxed and elongated producing an irritable, constant cough. Normally the uvula almost if not quite recedes from sight when the mouth is widely opened and the patient made to gag. In relaxed elongated states the uvula may hang down so that its tip falls behind the posterior end of the tongue and even touches the epiglottis, when it must be pushed aside in order to see the pharynx; this condition is also one demanding the attention of the physician and its discovery should be reported to him.

It is especially important for the nurse to be able to determine abnormal conditions in the throats of babes and young children, and when evidence of abnormal conditions are present should immediately summon the physician.

Painful swallowing, "dysphagia," may be present when no condition of sore throat, sore mouth or sore larynx is present. It is then due to some condition within the tube leading to the stomach, the "esophagus," or to some disturbance immediately without this tube. The occurrence of dysphagia should of course be reported to the physician.

STOMACH.

The stomach is an enlargement of the alimentary canal beginning at the end of the esophagus and ending at the beginning of the intestine. The opening from the esophagus is called the "cardiac orifice," while that into the intestine is known as the "pylorus." The stomach lies just beneath the diaphragm with five-sixths of it to the left of the medium line and the larger portion under the ribs. The size varies considerably, according to age and activity, but in the average adult it will hold a quart without especial disturbance. The outside of the organ is covered by the peritoneum, which allows for free movement over the other abdominal organs with which it comes in contact; next comes the muscular coat whose contractions cause the contents to be churned about and expelled through the pyloric opening, while a certain arrangement of the muscle fibers prevents the contents from being expelled too soon into the intestine or from being returned into the esophagus; then comes the mucous lining, which is supplied with innumerable special glands that produce the "gastric juice" as required. The cardiac opening lies just behind the end of the breast bone, while the pyloric opening is two or three inches below and two or three inches to the right of that of the cardiac, the bottom of the stomach being about half way between the end of the sternum and the umbilicus.

Normally the stomach, when empty, is quiet, but so soon as food is introduced secretion of gastric juice from the walls begins and muscular contractions take place, so that the contents are churned about to thoroughly mix the food with the gastric juice, whereby certain changes take place in the chemical composition of those portions of the food that are known as "proteid," examples of which are lean meat, white of egg, and the gluten of grains. After a proper period of this mixing the pylorus relaxes and some of the stomach contents is pushed into the intestine. The time, in health, required for gastric digestion depends upon the quantity and character of the food taken; when the diet is a simple fluid and the stomach healthy the latter is emptied in less than one hour, whereas if a full meal as an ordinary dinner, a healthy stomach will not be entirely empty until at least five hours after ingestion. Variations of this gastric-digestion time will also depend upon the quality and quantity of the gastric juice, the condition of the musculature, the sensitiveness of the nervous mechanism as well as the position of the stomach in the abdominal cavity. In infancy the stomach lies almost vertical, the long diameter of the child's stomach being almost a straight line parallel with that of the esophagus, while in adult life the long diameter is more nearly at right angles to that of the esophagus. Abnormally there may be any relation of the diameters and any improper location of the organ.

In perfect health, the individual should not be aware by any symptom other than that of satiation that any food is in the stomach or that digestion is in progress. When hunger is present the entrance of food into the stomach diminishes that sensation until when a sufficient quantity has been introduced the feeling of hunger is gone and its place is taken by a sense of comfort which should last until sometime after the stomach is empty. Abnormalities of both the anatomy and function of the stomach produce variations in the sense of comfort and satisfaction derived from the ingestion of food as well as produce various symptoms, pathologic in character.

200 Lexington Ave.

(To be continued.)

MAKE it a point to do something every day that you don't want to do. This is the golden rule for acquiring the habit of doing your duty without pain.—MARK TWAIN.

THE NURSING OF CHILDREN.

BY MISS MINNIE GOODNOW,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

(Continued from page 433.)

CARE DURING FIRST MONTH IN NORMAL CASES.

A NURSE who has the care of a young infant is invariably expected to be a teacher of principles and methods. She must therefore be equipped with popular as well as technical knowledge, and must know not only that certain things are so, but why they are so.

BOOKS.

She will find it well to be able to recommend some books from which the young mother may gain information. Holt's "Care and Feeding of Children" is perhaps the most complete work for popular reading. Fischer's "Care of the Baby," Wheeler's "The Baby—His Care and Training," and Griffith's "Care of the Baby" are also among the best. They are all simple but reliable. Schinn's "Biography of a Baby" is a scientific study of a child's development, which is interesting alike to mothers and nurses.

CLOTHING.

A nurse has frequently to give advice in regard to clothing for the baby, and should know something of the quality and durability of materials. Advise the buying of good flannels, as these may be used for a long time if properly made and cared for. All-wool flannel does not launder well, and silk-and-wool or linen-and-wool are much better. A good quality can be obtained for about ninety cents a yard. If the petticoats are made quite full—one and a fourth yards—they can be used until the child is three or four years old. A cheaper flannel—forty cents a yard—may be used for pinning blankets.

The shirts which have a double front are undoubtedly the best, but if used should be fastened with a very tiny safety-pin or none at all; imagine yourself with a four-inch blanket-pin in the center of your back, and you will have some idea of the reason for omitting it.

The best material for dresses is nainsook, which may be bought for 20 or 25 cents a yard; lawn musses badly and does not launder well; other materials are too heavy. The slips should be made with draw-strings at the neck and wrists, and armholes amply large; then they will not require making over as the child grows. None of the clothing should be longer than twenty-four inches from the shoulder to the bottom of the hem; the regulation twenty-seven inches makes them cumbersome.

Short jackets are useful, and may be made of wool, flannelette or silk. Nightgowns are best of flannelette, except for summer, when nainsook or long-cloth may be used. If of wool flannel, the neck should have a silk or linen binding.

Diapers may be made of a cheap grade of outing flannel. Canton flannel is too heavy, and is not absorbent until quite well worn. Linen is soft and absorbent, but clammy when wet. Cotton birdseye is excellent, but always becomes gray after much washing. The Arnold knit diapers are probably the best, but are too expensive for ordinary people.

WHAT TO PROVIDE.

The following list will be found sufficient for most cases:

3 shirts, second size, preferably silk-and-wool.
4 pairs stockings.
4 flannel petticoats.
4 wool pinning blankets.
Material for 3 or 4 bands.
10 or 12 dresses or slips.
3 jackets.
50 diapers.
2 or 3 head shawls.
2 blankets or small comforts.

A coat and a bonnet may be provided later when the child first begins to go out.

TEMPERATURE.

As long as a nurse has the care of a baby, she should take its temperature twice a day, simply as a precaution. In the morning just before the bath, and in the evening at bedtime are convenient times. A rectal thermometer with a large bulb is better than those ordinarily in use. A nurse should take pains to teach the mother the significance of temperature and how to take it correctly. She should be warned against over-anxiety, however, and should know that high temperature means less for a child than for a grown person.

WEIGHING.

Every baby should be weighed regularly, even after it is unquestionably thriving. During the first month of life it should be weighed daily. Later once a week is sufficient. The weight should be taken without the clothing, simply because it is more accurate; if needed, a towel or diaper may be placed in the scale and allowed for. An ordinary grocer's scale will be found much more reliable than the expensive baby scales which are sold for this purpose.

A weight chart should be kept for each baby. This is much like a temperature chart, and gives a graphic picture of this all-important matter.

LOSS OF WEIGHT.

Many nurses seem not to have a clear idea of the causes and meaning of the child's initial loss of weight. It is due to evaporation, to elimination, and to lack of food, and is ordinarily nearly a pound. It may be as little as half a pound, while one and one-fourth pounds is not abnormal. The amount lost is less important than the time over which it extends. The child should cease losing by the fourth day, and should begin to gain not later than the sixth. There may be no gain for several days without its being at all a serious matter, but if the loss continues up to the sixth day there is reason for anxiety. So later; a child may not gain for several weeks without anything being radically wrong; but if it loses, the matter should be taken vigorously in hand.

LIFTING AND HANDLING.

It ought not to be necessary to say that a baby should be handled carefully—care in this instance meaning not so much gentleness as skill. For example, there is nothing wrong about picking a child up by its feet, while it is criminal to lift it by the arms. To lift a baby properly, the head and back of the neck should be supported by one hand while the other grasps the clothing just below the feet. When a child is lifted without its clothing, a finger should be placed between the ankles to avoid pinching.

DRESSING.

In dressing, do not lift the child, but roll it, exactly as you would a grown person. All garments should be put on over the feet, never over the head; the latter method is injurious both to eyes and temper. When two garments can be slipped inside each other and put on at one time it should be done.

CARRYING.

The correct and comfortable way to carry a baby, or an older child, is not the usual cramped position in the arms; but the child should be carried on the hip, face downward, with the arm under the abdomen. This gives absolute freedom of movement, and is easier both for the child and the one who carries it; it has the advantage of leaving the other hand free for opening doors, etc. The method is rather startling to the laity, but is the one taught in the better hospitals.

ARRANGEMENT FOR BATHING.

In bathing the child, do not assume the awkward and inconvenient position of sitting in a low rocker with the tub on the floor and the child in your lap. Use a table. In private nursing, the kitchen or dining room table with a folded blanket on it makes a convenient arrangement. In hospitals an ordinary pine table may be padded and covered with white oilcloth, and a soft blanket laid on top. In cold weather a hot water bag, not too full or too hot, may be placed between the folds of the blanket and the baby laid directly over it.

For a sponge bath, have the water at a temperature of 105°, as it cools very rapidly. For a tub bath, the water should be 100°; by the time the child is undressed it will have cooled to just about blood heat. This temperature should be gradually decreased after a week or two, and the child accustomed to cool water. The baby should be wrapped in a towel or diaper, and lowered slowly into the water. If the water is not the right temperature, or the child is thrust into it suddenly or carelessly, it may result in the permanent dislike of a bath.

In bathing, special attention should be given to the folds of the groins, about the neck, and under the arms. The head should be washed at each bath; this is sometimes neglected, and may cause an eczema.

The eyes should be sponged off daily with warm boric acid solution; they should not be washed out unless the physician so orders. Any discharge should be at once reported.

The daily bath is not now considered an essential. Some doctors prefer not to bathe the child at all for ten days or two weeks, except so much as is needed for cleanliness. For very small and weak children, bathing is always contra-indicated, and oil rubs should be given as a substitute. Use for this purpose cocoanut oil, albolene, or benzoinated lard, with a gentle kneading movement for arms and legs, and a circular stroke for chest, abdomen and back.

If a tub bath is to be given, it should be postponed until the cord is off and the umbilicus is thoroughly healed and clean, as the danger of infection from this source is a very real one.

Even if the bath be omitted, there should be an entire change of clothing twice a day. It is not necessary to send the garments to the laundry, but they should be well aired before being used again. The change of clothing at bedtime is quite as important as in the morning; it is not likely that a baby is comfortable sleeping in day garments any more than an older child is. Attention to this small point may save many a sleepless night for both mother and nurse.

It is wise, in many cases, to keep a baby's hands covered by its sleeves; partly because the hands so readily become cold, and partly because a child frequently scratches its face badly, or may even infect its eyes in this manner.

(*To be continued.*)

THE TRAINED NURSE.*

By F. A. Long, M.D.,

President State Medical Association, Madison, Neb.

Mr. Chairman, Young Ladies of the Graduating Class of the Omaha General Hospital Training School for Nurses, and Ladies and Gentlemen:

I ESTEEM it a great honor to be accorded the privilege of addressing you on this, to you, momentous occasion. The occasion is indeed momentous, for here ends your probation and you now behold a vision of the nursing world, with all its pleasure and profit, its sunshine and shadow, its hopes and fears, its trials and tribulations.

I am pleased to have the pleasure of addressing the first graduating class of a great hospital, owned and conducted by the Christian Institute of the great city of Omaha; and you, young ladies, may well feel proud to go from here to battle with the world of human ills, with the reflection that you bear the diploma of a school of training of a hospital founded upon the noblest impulses of the associated Christian people of this city. Although this great charitable enterprise is new, and the machinery may not have all the elements of perfect adjustment that one would look for in a well endowed hospital after many years of work, the founders have shown a determination of purpose in acquiring this splendid hospital property which augurs well for the future of the institution, and leaves no room for the speculative pessimism of doubting Thomases.

From the fact that this institution is but one year of age, it is apparent that all of you must have taken part of your training elsewhere, doubtless in different cities, and some perhaps in old and well established hospitals and institutions of wide repute. Be this as it may, I would esteem no honor greater than the honor of having been one of those who assisted in the first work of establishing this great and noble charity.

The authentic history of nursing as a distinct art dates back to the fourth century, when, on the closing of the Olympic temples, the indigent sick, previously housed and cared for in these places were turned adrift for themselves. The monasteries and temples of the early Christian propaganda were opened to them, and women banded themselves together to care for those in need.

Hospitals date back to the eleventh century and were the outgrowth of the needs of that strangest of all religious tragedies ever enacted upon the stage of human activities, the Crusades. There was great scarcity of physicians and the male attendants at the hospitals, known as hospitalers, were assisted by various bodies of women.

In the twelfth century the first school for nurses for service in the hospitals was organized by the Abbess Hildegard, at Rupertsburg. Very early in the history of England, there was a fraternity of elderly women, who were employed in Obstetrics, an art at that time not practiced by men.

These may be said to have been the beginnings of what in modern times we know as the art of nursing.

To Florence Nightingale, a highly educated and brilliantly accomplished English lady of philanthropic tendencies, the modern world owes much that is known of nursing and of hospitals. Born in 1823, she early became interested in the work of hospitals, traveled extensively over Europe to study conditions in civil and military hospitals, and took training with the Sisters of Saint Vincent de Paul, in Paris, and with the Protestant deaconesses at Kaiserswerth on the Rhine. Ten years of her life had been devoted to this work when, in 1854, the Crimean war broke out.

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* An address delivered to the first graduating class of the Omaha General Hospital Training School for Nurses, January 10, 1907.

This war of the allied powers, lasting a little over two years, stands forth as one of the bloodiest in the world's history, the death losses summing up nearly two hundred thousand. After one of the first battles the death losses from overcrowding of the hospitals, bad sanitation and inadequate care, became so great that the mortality exceeded the losses in the fiercest battle. At this time Florence Nightingale came forward with a proposition to organize a nursing department, was sent to the Bosphorus with a corps of nurses, improved the sanitary conditions of the hospitals, mitigated the suffering of the sick and wounded, and proved that, with proper care, the mortality among soldiers could be reduced to one-half of what it is at home in times of peace. After a service of nearly two years, and after the closing of the Crimean war, a testimonial fund approximating $200,000 in American money was subscribed for her benefit, and by her was given for the founding of what is known as the Nightingale Home, a school for the training of a superior order of nurses in connection with Saint Thomas' Hospital, London. Her writings on hospitals, nurses and sanitary matters are voluminous, and of the highest order, being classics. During the Civil War in this country she was often consulted by our government on matters pertaining to camp hospitals.

In the year 1872 the Bellevue Hospital Training School for Nurses, in New York City, graduated the first class of nurses in the United States. Since then the training of nurses has made rapid strides in this country, until today practically every hospital has a training school, and hospitals have multipled since the advent of the era of aseptic surgery.

Much as the hospital idea has grown in popular favor since the coming of the era of aseptic surgery—and the business of the surgeon has multiplied and the attendance of training schools has increased proportionately—there is to-day in the middle West a demand for trained nurses greater than the supply, just as there is in this city to-day a demand for larger and better hospital facilities. And, while on this subject, let me venture the prediction that by the time the hospitals now under construction in this city to-day and those the construction of which is contemplated the coming summer are completed, the facilities they will afford will prove inadequate to the demands made upon them, so great and still growing is this business of the surgeon in this era of modern aseptic surgery. With this, of necessity, will increase the demand for nurses.

The demands coming from rural communities for trained nurses are constantly increasing, as the people become educated to an appreciation of the value of scientific nursing, and with a continuation of the general prosperity will continue to increase as time goes on. The professional life of the trained nurse after graduation is not very long. I have not had access to statistics bearing on this point but I am led to believe that the professional life of a trained nurse after leaving the hospital does not average over from three to five years of practice. It must therefore be apparent to any thoughtful person that the outlook for young women having a taste to engage in this line of work is rather brilliant. Physicians in touch with hospitals know that the demand for suitable persons to take up training is greater than the supply.

Originally nursing was considered a menial occupation; to-day it is one of the noble arts. Already the course of training, nearly everywhere, extends over a period of three years—a long period, but, to paraphrase an old saying, Whatever is worth learning is worth learning well.

Among the noble avocations open to women to-day the art of nursing stands preeminent. As a practical finish to a women's education, I esteem two subjects above all others: household economics and the art of nursing. From a purely mercenary standpoint, nursing in private life offers inducements superior to teaching, stenography and typewriting, and clerical positions. From the humanitarian and sentimental standpoint no position in life offers a greater opportunity to do good. No avocation open to a great number of women places her on a higher plane socially and morally and in no position is woman more independent. No avocation or training better prepares a young woman to become the central figure in a home—which is, and rightly should be, the ultimate aim of every normal woman.

If I were to emphasize one point above all others it would be the need of well educated, sensible young women taking up the work of nursing—young women of sufficient breadth of character to glorify the work, rather than to become narrow by it. Nursing is hard work to be sure, but where in the wide world is there anything to be done and well done that can be counted a sinecure? The laity is wont to envy certain trades and professions as easy berths, snaps, sinecures. That man or woman who does his or her part of the world's work, whether intellectual or manual, and does it well, has no sinecure in life. There are vocations the hours of devotion to which are so arranged as to make them more desirable than some others. The practice of medicine and nursing are not two of these. When and where duty calls go the doctor and the nurse, regardless of the appointments to social functions or the need for recreation or rest.

I bring you a message from the plodding country doctor, he who for five and twenty years, less a few months, on the broad prairies of Nebraska, by day and by night, in sunshine and in storm, has ever heeded the sick call to duty, whether from prince or pauper, regardless of the pleasures of the day or the needs or desires of home or family life. With but few opportunities to have the valued assistance of trained nurses, I have learned to appreciate their work perhaps better than my city brother to whom the assistance of a nurse is so common as to be taken as a matter of every day necessity and perhaps without a full appreciation of the value of her services as an adjunct to his work. Without taking too great liberties with the secrets of a professional life, I may add that in considerable more than a thousand births, at which I have been present as the good genius, I have not had the assistance of a trained nurse once—not once. Need I tell you that I have ever felt the need of trained nursing? Ah, you can well imagine the disadvantages under which the country doctor labors.

Your professional life as private nurses will throw you in many situations akin to the every day experience of the country doctor. Let me admonish you to rise heroically, as does the true physician to every emergency. Make the best of the opportunities with the material and facilities at hand, and do not falter because, perchance, something needs doing not strictly in accord with preconceived notions of professional dignity. The nurse should not be a drudge, but if something needs doing not strictly in line with nursing, and there is none else to do it, do not shirk, but like a good Samaritan do it ungrudgingly.

In my professional life, without the aid of trained nursing, I have ever considered it a duty to the newly-made mother, although not strictly the physician's work to see to it personally, that the bed and body linen were changed and her person rendered aseptic. I would as lief think of cutting and sawing off a man's leg, calling that a finished amputation, and asking any bystander to wash and wrap it, as to leave the mother without personally first caring for her, trusting her toilet, instead, to the untrained and usually careless hands of the nearest neighbor.

Professional dignity is a good thing but it has limitations. I have little respect for the nurse who will consider her comfort paramount to that of the patient. Devotion to duty should be the watchword of every physician and nurse. In great crises, sleep, outdoor exercise and every comfort and pleasure of physician and nurse must be foregone for the patient's good.

Go where duty calls, whether to hovel or palace and regardless of the nature of the disease.

Do not misinterpret my lecture. Having consecrated yourselves to this line of work heed every call to duty, and do it well even at the peril of your own constitution, but take every opportunity that can be spared without risk to the patient to improve your physical well-being, and in the case of contagious diseases neglect no opportunity to keep your bodily functions normal and to render the contagium from the patient immediately innocuous.

To the physician or surgeon, and the patient, the intelligent assistance and co-operation of the trained nurse is half the battle. It is possible that in many cases the trained nurse saves the patient's life, and the doctor gets the praise —and the fee.

As an isolated example of a case in striking contrast to the above, I may cite a case in my own practice of a very severe infective lymphangitis, originating in an injured toe, where after recovery the nurse got all the praise and the fee and I got the blame and a grudging pittance.

I have thought that the favorable results shown by statistics of certain methods of treatment in certain diseases in hospitals might be due not so much to the treatment employed by the doctor reporting, as to the thousand and one little things done for the patient's comfort by the nurse.

The nurse comes into the home during the greatest crisis in the family's history and she is looked upon as a superior being. Her deportment as well as her work must be submitted to the crucial test of public opinion. Great things are expected from her and she should prove equal to every emergency.

From my observation and from the experience of patients I am led to believe that the greatest weakness of trained nurses is their want of ability to cook well. When a patient's nourishment is so very scant it should be very tempting, so that the patient may relish every bit of it.

The nurse must be loyal to the attending physician and never speak of him disparagingly to the patient or her advisers. She must carry out the physician's orders in the spirit of his intentions. She must not give a cold douche when a hot one is intended.

Cheerfulness, assurance and willingness count for much with the patient who must have absolute confidence in the nurse. The ideal nurse would be perfect. "Trifles make perfection, but perfection is no trifle." To the patient, the good average nurse seems almost perfect and she grows to have a genuine liking for the one who brings so much comfort and relief.

Her education and training entitle her to the respect which will everywhere be accorded to her. Her superior knowledge on matters pertaining to the public health places her in a position where she can do much toward educating the family and community along hygienic and sanitary lines. The impression made on a family by the short stay therein of a trained nurse marks a very distinct step in advance along the lines of surgical and personal cleanliness, as I have repeatedly observed in isolated country homes. Her short stay leaves bright memories, cherished for years. Her opportunity to do good in many ways is a grand one and she should avail herself of it, for it is a primal duty of all to endeavor to uplift their less fortunate fellows.

I congratulate you most sincerely upon your graduation, and on behalf of the medical profession whom I have the honor to represent I welcome you as helpmeets of the physician and surgeon. Your star became ascendant with the dawn of aseptic surgery and you are a necessary part of it to-day, and ever will be.

Young ladies you are standing this day upon the golden threshold of opportunity. A thousand homes are open to receive you; a thousand hearts are waiting for your kind and cheering word; a thousand bodies racked and tortured with pain await the touch of your deft fingers. You must battle with sickness and death. You must be ready for every unforeseen and often unexpected emergency. To accomplish your aim and to attain to true success you must be "as wise as serpents and as harmless as doves." Your fund of patience must exceed that of Job's, your wisdom that of Solomon's and your kindness that of the Good Samaritan. The Good Book calls the angels "ministering spirits," but you are more—you are ministering angels. Optimism must be written on your countenance, hope engraved in your heart, sympathy in your touch, and kindness in your speech.

Your reward for painstaking and conscientious service cannot be measured by a money standard, nor by the work done, but by Him who has said: "Inasmuch as ye have done it unto one of the least of these, my brethren, ye have done it unto me."

And now, young lady nurses, I wish you all a brief but brilliant professional life, to be succeeded by a more brilliant home life, where and when you shall reign as the queen, and for which your training fits you as no other training can.

I thank you all.

MEDICAL CHARITIES IN NEW YORK CITY. II.

Miss Florence L. Lattimore, of Philadelphia, has published in the *New York State Journal of Medicine* a most thorough study of the hospitals, dispensaries, and other medical charities of Manhattan and the Bronx. In the June Gazette the first instalment of Miss Lattimore's paper was reviewed, and those portions of greatest interest to nurses were quoted. We take pleasure in giving herewith a number of excerpts from the concluding instalments, appearing in the *Journal* for March, April and May. The entire paper will well repay a careful reading on the part of those interested in medical work and nursing.

DISPENSARIES.

There were sixty-six dispensaries in Manhattan and The Bronx in 1903-4. Two, connected with churches, were closed during the year, but four new ones were opened; of the four added, two were public dispensaries for contagious diseases, one was the clinic for communicable pulmonary diseases at the Department of Health, and the other the dispensary of the Italian Benevolent Society, making sixty-eight in 1904-5.

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Of the fifteen dispensaries having visiting nurses, from six of the largest no statistics could be obtained of the number of visits made, and ten did not give the number of cases visited in 1903-4 and 1904-5. The nurses of the Demilt, the Northern, the Northwestern, the Presbyterian and the Wilkes Dispensaries visited 4,115 cases 17,941 times in 1903-4, and 6,579 cases 26,350 times in 1904-5—an average of four visits for each home case in the two years.

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The rules of the State Board of Charities in regard to dispensaries have greatly altered the management of these institutions. Under the rule which created the office of a registrar has come a new responsibility in the admittance of patients. There are rules for the guidance of the registrar in approving or disapproving applicants, such as: all emergency cases shall be admitted and receive prompt treatment and care; all applicants, who in the opinion of the registrar are deserving poor, shall be admitted for treatment; those persons who are suspected by the registrar of not being proper charity patients shall be given a first treatment, provided they sign what is called a "representation" card, certifying that they are proper objects for charity. The registrar is then to cause an investigation to be made to determine whether or not such patients shall be admitted for further treatment and the report is to be recorded in the dispensary books. Applicants who refuse to sign the "representation" card are not admitted even to a first treatment. The character of applicants differs greatly according to the location of the dispensary. In one large dispensary on the East Side, the registrar states that he used to investigate all applicants who were in any way doubtful, but he never found any who, in his opinion, could afford an outside physician, and therefore he now seldom investigates beyond an interview.

The types of the "pecuniarily unfit" who apply for dispensary treatment have been classed as follows: 1, Those ignorant of hospital usage and not only able but willing to pay for treatment: 2, Those who, under the pretence of poverty, seek service for which they are able to pay; 3, A class known in institutions as "rounders," who go from one dispensary to another for advice and treatment; 4, Those who are able to pay a small fee, and who, instead of being sent to a physician who would charge a fee in keeping with their means, were referred to a dispensary.

To the first class, those able and willing to pay for treatment, the registrar explains the mission of the dispensary and why they cannot be admitted to it. To the second, those pretending poverty, he finds out as much as possible by interview and then either sends them away or admits them for a first treatment after they have signed the "representation" card. To the third class, the rounders, if the patients are known to be under treatment in some other dispensary, they are referred back to it, unless there is some good reason for retaining them. To the fourth class, those able to pay a small fee, the registrar frequently gives a printed list of the physicians on the dispensary staff, in alphabetical order, with addresses and hours.

The steady stream of young and old, strong and feeble, that stop at the desk of the registrar to be passed upon by him does not give the opportunity for a satisfactory investigation of the applicants who apply for dispensary treatment. The Charity Organization Society, which had offered its services for this work, has been asked by thirty-four of the dispensaries in New York for reports on the financial standing of their applicants, seven depend altogether upon the dispensary chief, who, in some of the smaller dispensaries acts as registrar; two depend upon their own visitors; one upon the United Hebrew Charities; and the rest upon the registrars. The only dispensary in which the number of persons so reported exceeded forty—according to the figures given by the registrar—was the dispensary of the Presbyterian Hospital, where, out of 737 reported in 1905, 368 were judged able to pay, and, therefore, refused treatment. In the New York Eye and Ear Infirmary, which treated 36,280 cases in 1903 and 37,606 in 1904, a trained social worker is employed as registrar and investigator. In her experience, covering several years, the number of those applying at the dispensary, who could afford to pay a private physician, is very small indeed. It must be realized, however, that these were persons who had to be judged as to their ability to pay the fees of a specialist. As yet this registrar has not found time to give this number definitely, but the result of the investigations are kept in a card catalogue readily available. It is true, however, that the limit of inquiry usually is to ask a suspected applicant to sign the affidavit that he is an object of charity.

TUBERCULOSIS.

It was not until Robert Koch discovered the germ of tuberculosis in 1882 that this disease began to be generally considered communicable. The sputum of persons suffering from consumption—which is now known as pulmonary tuberculosis—is considered to be the principal source of infection, while tuberculosis of the bones, joints and glands, when covered with unbroken skin, is not considered an immediate source of infection.

In order to guard against the infection from consumption, special hospital departments from special hospitals have been organized for the exclusive care of pulmonary tuberculosis. Such patients were formerly cared for in the medical wards of the general hospitals. The total number of free beds for cases of tuberculosis in the two boroughs is stated as follows:

	No. of free beds. 1903	1904
State Hospital for Incipient Tuberculosis (New York City's quota)....		85
Metropolitan Hospital................	416	580
Riverside Sanatorium................	80	83
Bellevue Hospital....	24	60
Post-Graduate Hospital...............		12
St. Joseph's Hospital................	373	410
St. Vincent's Hospital..............		70
Seton Hospital......................	206	380
Lincoln Hospital and Home.........	40	45
Montefiore Country Sanatorium......	162	171
Montefiore Home (City)............	30	44
Mt. Sinai Hospital....................		10
House of Rest for Consumptives......	40	39
Seaside Camp of A. I. C. P. (non-pulmonary)........		54
Totals........	1,371	2,043

This shows the public hospital provision existing in the Metropolitan Hospital on Blackwell's Island, the Riverside Hospital on North Brother's Island, and Bellevue Hospital. Being under three city departments the statistics of these cases appear in three different reports, and in somewhat different form. The general statistics given for the city institutions include the tuberculosis figures. In 1904 the Department of Public Charities supported 3,959 tuberculosis patients in its own hospitals and 9,456 elsewhere. The number of beds for which the city pays—outside of the three above-mentioned hospitals—number 990, distributed as follows:

State Sanatorium at Ray Brook (New York City's quota)........	85
St. Joseph's Hospital.......................	410
Seton Hospital.............................	380
St. Vincent's Hospital.....................	70
Lincoln Hospital............................	45

The patients who are regarded as hospital cases have been classified as follows:

1. Advanced or bedridden cases, who will not take precautions against infection and whose presence at home is a menace to the family.

2. Cases able to get about but not able to work, who are dependent on their earnings for support.

3. Incipient cases with a good chance of cure if removed to a country sanatorium.

4. Cases who are homeless, or who live in lodging-houses. The inadequacy of the provisions for institutional care of the tuberculosis patients has led to extensive plans for additional accommodation. The Department of Health is to have a sanatorium with a capacity for 500 patients at Otisville, Orange County; the Department of Public Charities has arranged for a hospital of 800 beds for consumptives adjoining the New York City Farm Colony on Staten Island, and an addition of 125 beds is to be made to the existing provision at Riverside Hospital, under the Department of Health, and Bellevue is planning an additional 96. It is hoped that in the near future the general hospitals will be entirely relieved of tuberculosis patients.

The first dispensary class, exclusively for the treatment of tuberculosis, was started in 1894 at the New York Throat, Nose and Lung Hospital. The Presbyterian Dispensary began special tuberculosis work in June, 1895; the Post-Graduate in March, 1898; the Vanderbilt Clinic in January, Gouverneur Dispensary in October, and Bellevue in December of 1903. The Clinic of the Department of Health and the Harlem Hospital Dispensary began March 1, 1904. In establishing its Clinic for the treatment of communicable pulmonary diseases, the Department of Health took a step in advance of all other such departments known by appointing three nurses to make home visits to needy consumptive patients. These nurses, at first, worked chiefly along lines of prevention and cared for only certain advanced cases; later, however, they were given the actual supervision of all destitute cases of pulmonary tuberculosis. It is stated that two-thirds of the nurses in the United States, whose entire time is given up to tuberculosis patients, are employed in New York City. The Clinic, which adjoins the headquarters of the Department, is open daily, except Sundays and holidays, from nine to four o'clock and from eight to nine in the evening. It is worthy of special remark that the effort is made to have this Clinic open at hours which do not interfere with the work of wage-earning patients. Three nights a week colored physicians are in attendance to treat colored patients only. Circulars of information are furnished in English, German, Yiddish, Italian, Chinese, Ruthenian, Polish, Hungarian, Russian; paper sputum cups and paper handkerchiefs are also supplied free. Tuberculosis patients, discharged from the public hospitals, are kept under observation by the Department, through its staff of visiting nurses, who visit such patients at their homes and promptly report to the various charitable organizations any cases needing their attention. Besides the dispensary treatment and supervision the Department furnishes the most destitute of its patients with milk and eggs.

In July, 1904, a tuberculosis department was opened in the Bellevue Dispensary, with three special nurses on its staff. Milk and eggs are supplied here also for the poorest patients, and nurses see that the physician's orders are carried out in their homes.

Other dispensaries which have special departments for tuberculosis are the Presbyterian, the New York Post-Graduate—which has evening hours from seven to eight as well as day hours—the Vanderbilt Clinic, Gouverneur, and Harlem Dispensaries.

Those supplying nourishment to their patients, in addition to those above mentioned, are the Presbyterian Dispensary and the Vanderbilt Clinic, which give milk and eggs to a small number. Many of the dispensaries give orders on the diet-kitchens which are located in different parts of the city.

A general campaign against tuberculosis was inaugurated by the Charity Organization Society in the winter of 1902-3, which included provision for a nurse to visit among the tuberculosis cases. The United Hebrew Charities and the Association for Improving the Condition of the Poor have also been influential in rousing the public to a sense of its responsibility in the future prevention of the great white plague.

The ravages of tuberculosis seen in the crippling of children through the destruction of bones and joints; and the long period of home or institutional treatment needed to arrest the destructive processes in them, and to effect the cure which too often leaves the patients in a condition that hampers their future efficiency, and makes them ready subjects for the various charitable agencies, have added sociological factors to the medical problem involved in this blighting disease.

The New York Association for Improving the Condition of the Poor, in the summer of 1904 opened an Experimental Seaside Hospital for Tuberculous Children, as an extension to its work at Sea Breeze Home, West Coney Island, for convalescent women, children and babies. This was the first experiment in America to apply the fresh salt air treatment to tuberculosis of the glands, bones, and joints. The children were housed in tents from June 6 to October 31, 1904, and continued through the winter in a large cottage. Forty-nine patients were under treatment the first year, of whom seven were discharged as apparently cured, two as unimproved, and two children died. The success of the experiment has resulted in a fund of $250,000 to establish in the near future a permanent hospital for such cases as have been received at the Sea Breeze Hospital.

The New York Society for the Relief of the Ruptured and Crippled, incorporated in 1863, has as yet no place of its own for the out-door treatment of tuberculous children, although Sea Breeze has cared for several of its patients, and other agencies have provided summer outings for them. The New York Orthopædic Dispensary and Hospital, incorporated in 1868, has built a country sanitarium, open the entire year, at White Plains, for fifty-six patients. Here a graded school with carpentry, sewing, mechanical drawing, etc., has been started, and it is planned to have, later on, a trade school, that the patients may be prepared for self-support at the time when they are discharged.

In 1900, the Legislature established the New York State Hospital for the Care of Crippled and Deformed Children, moved from Tarrytown to West Haverstraw in 1905, but as this is a state institution New York County is entitled to only a limited number of patients. In 1904, fourteen of the forty-two treated came from New York County and, in 1905, twenty-two out of the total fifty-six. The capacity is forty-five beds, and the waiting list contains the names of more than 300 applicants.

In the Children's Hospitals and Schools on Randall's Island (the name of which was changed from Randall's Island Asylums and Schools and Infants' Hospital to its present title in 1903) there may be found almost every type of the physically unfortunate child. Any child physically unfitted for the care of any of the local institutions or from the city at large may be sent to the Children's Hospital. The Infants' Hospital, which treated 542 babies in 1903, treated 345 in 1904. The thirty-one babies remaining December 31, 1904, were discharged during the next year, the last one leaving the hospital September 8, 1905. No more infants were received, and the building formerly used by them was arranged to form part of the Children's Hospital. This room was needed that a more strict classification might be used among the children suffering from contagious skin diseases, eye troubles, etc. All the children who are able attend the schools which are provided for them by the public system. The School for the Feeble-Minded and the Custodial Asylum are also in the same group of buildings as the Children's Hospital.

A Joint Committee of the State Charities Aid Association and the New York Association for Improving the Condition of the Poor was established in April, 1889, to co-operate with the Department of Public Charities in boarding motherless babies and foundlings who would otherwise become public charges. The percentage of such children when sent to the Infants' Hospital on Randall's Island who died before they were two years old was nearly 100 and the committee undertook to board out such children in good homes, where special attention would be given to proper nourishment and care. 253 babies were in the care of the committee in 1903-4, and 327 in 1904-5, with a death rate of about ten per cent. Sixteen were placed in hospitals for special treatment in 1903-4, and twenty-six in 1904-5. The Guild of the Infant Saviour and the Hebrew Infant Asylum have also appointed committees to co-operate with the Department of Public Charities in this work. The expense of these committees is borne entirely by private funds.

The Babies Hospital, 55th Street and Lexington Avenue, is the only one in New York City which is exclusively for infants under two years of age. The city pays subsidized hospitals for these cases only when the infant has been resident in New York City for twelve months, consequently there is much private charity for this class of patients.

Much important summer work is done for sick babies. St. John's Guild started, in 1875, a Floating Hospital, and in 1887 the Seaside Hospital was opened at New Dorp, Staten Island as a regular hospital. It has a present capacity of 500 beds. Tickets are given out for trips on the Floating Hospital boats through the Department of Health, the day nurseries, dispensaries and other agencies which come into contact with the poor. The Floating Hospitals carry sick children with their mothers and any brothers and sisters who are under six years of age. The babies that are found to be seriously ill are taken from the Floating Hospital on a launch to the Seaside Hospital where they stay—the mother also if necessary—until a cure is effected. The hospital is open only from June until the middle of September, but an effort is now being made to raise sufficient funds to continue the work throughout the year. To this Guild New York City pays a yearly subsidy. 1139 were treated at Seaside in the summer of 1903, and 1191 in 1904.

A Fresh Air Camp for Sick Babies in New York City was opened on the river front in July, 1906, under the auspices of the Association for Improving the Condition of the Poor to demonstrate that fresh air work need not necessarily involve transportation from the city. It is hoped that further development of this work will soon be seen.

(*To be continued.*)

OBSTETRICAL SUPERSTITION.

Dr. W. C. Kissinger says, in the *Pennsylvania Medical Journal,* that in all branches of medicine one meets with many curious superstitions. We, as a nation, are the least superstitious of any people, because we are the best educated people in the world. In obstetrics one meets with some curious ideas that have existed for centuries. The doctor knew of a case in which the mother and nurse positively refused to allow the doctor to weigh the baby because it was unlucky. The custom of burning the cloth used to dress the cord originated in a superstition. Experience has shown it to be of value and science tells us why. It is considered unlucky to be born on Friday. The months and phases of the moon also influence the future of the baby. Galen has said that " animals born when the moon is falciform are weak, feeble, and short lived, while those born when the moon is full are the reverse." On the other hand, it is an extreme good fortune to be the seventh daughter of a seventh son. To be born with the caul is also a rare good fortune. These membranes are dried and are supposed to possess a wonderful charm. The possessor is endowed with eloquence and is enabled to avoid many serious dangers. It is reported that these "cauls" may be bought in France for a reasonable price. A small drink of urine is advocated by some as an excellent remedy to increase labor pains and thereby hasten delivery. Holding a palm leaf in her hand or placing a sardonyx between her breasts will do the same thing. —*Medical Review of Reviews.*

TRAINED WOMEN NURSES FOR THE NAVY.

According to the *Army and Navy Journal,* for December 1st, Surgeon General Presley M. Rixey, U. S. N., strongly renews his recommendation of last year that congress be requested to enact a law authorizing the employment of trained women nurses for the navy. The services of women nurses in the army have proved highly satisfactory. Surgeon General Rixey points out that in all modern wars the services of women nurses have proved invaluable for the care of the sick and wounded. In time of peace such nurses would secure for the sick at naval hospitals a better medical and surgical nursing service than is now obtained and be of great use in teaching and training the men of the hospital corps. In time of war they would be needed, in addition, for hospital ships and their presence in hospitals would release a large number of hospital corps men for duty on men of war. The recommendations of the surgeon general for the establishment of a corps of trained nurses in the navy has met with the approval of the navy department. Senate Bill No. 2207, of the Fifty-ninth congress, first session, provided for the organization of such a corps, which could be readily expanded to meet extraordinary needs, but this bill unfortunately failed to receive the necessary legislation.—*New York Medical Journal.*

DEATH FROM DRINKING A SOLUTION OF POTASSIUM CHLORATE.

The Swiss courts recently condemned a military surgeon to a month's imprisonment on account of the death of a soldier in his charge from the consequences of drinking a solution of potassium chlorate which had been given him for a gargle. Evidence was presented that the physician had expressly stated to the patient and to the under sanitary officer attending him that the solution was for a gargle, but the sanitary officer alleged that he did not know what a "gargle" meant and had allowed the soldier to drink the fluid. A military court of appeals took the matter up and the sentence was reversed and the physician honorably discharged. The *Allg. med. Ct.-Ztg.,* in commenting on the affair remarks that it will certainly banish potassium chlorate from the medicine chest of the Swiss army medical officers to make way for some gargle that will not prove deadly if swallowed.—*Jour. A. M. A.*

THE CAMPAIGN AGAINST MOSQUITOES AND FLIES AS CARRIERS OF INFECTION.

Santori appeals to physicians throughout Italy to take the lead in educating the public in regard to the dangers from flies, as well as from mosquitoes, and to lead also in enforcing practical measures against them. Some of the French watering places have decreed and carried out the destruction of mosquitoes as a purely business measure, to relieve the visitors of the former plagues of mosquitoes. At Bourbonne the pools of stagnant water were covered with a mixture of one-third rapeseed or colza oil to two-thirds petroleum. This was repeated every six days, using about 35 ounces of the mixture to 100 square yards. The benefit was not fully realized until three or four weeks after the first experiments, when the town was astonished to find that it had been absolutely delivered from the perennial plague. —*Journal A. M. A.*

ROBERT BURNS' NURSE.

A pretty compliment was paid to some district nurses in Scotland the other day on the ground of their connection with the birthplace of Jessie Lewars, to whom Burns wrote one of his happiest lyrics. His lines to her on her recovery from a dangerous illness are less well known:

"But rarely seen since Nature's birth
The natives of the sky;
Yet still one seraph's left on earth,
For Jessie did not die."

He greeted her with these lines on her first appearance after her illness, saying, with a smile: "I knew you would get better; you have much to do before you die, believe me." And the work she had to do, the work through which her memory lives, was to nurse him in his own last illness, and close his eyes in death.—*Hospital.*

CORRESPONDENCE .

A GOOD USE FOR THE PICTURE POSTAL.

Editor of the Gazette:

With the ubiquitous picture postal card so much in evidence nowadays it is wondered if it has ever been suggested as a means of diversion and communication with the sick who may be quarantined in some epidemic. A recent epidemic of scarlet fever in this community quarantined a little eight-year-old against his two older brothers and a baby brother and his mother so effectually that his doctor and nurse were his only visitors. The next older brother bought postal cards out of his allowance and wrote Earl brief accounts of his doings. These came to him duly through the United States mail, and Earl was again a factor of the world and his irksome quarantine very much brightened and apparently shortened. At my suggestion other friends and neighbors adopted this means of diversion and some of the *ennui* of tedious confinement was relieved. Some of the picture cards could easily have pointed out on them an amusing character or figure of the neighborhood, the name of a favorite dog or cat, and a touch of a dextrous pen might make playmate look amusing on the card. It is hardly needed to add that these cards should not be permanent "souvenirs," but should be promptly *cremated* when their service has ended. Try this and report.

Respectfully the sick's servant,
D. Lichty, M.D.

Rockford, Ill.

FROM THE PRESIDIO TO THE PHILIPPINES.

The following excerpts are taken from the letter of an army nurse written to a fellow member of the Buffalo General Hospital Alumnæ, and kindly shared with the other readers of the Gazette:

Zamboanga Mindanao
Military Hospital, P. I.
March 26, 1907.

My Dear ——: I am surprised when I look at the date of your letter, October 28, 1906. Time certainly does have a way of passing on. Late in December my order came to "move on." It was earlier than I expected. I came on a sick nurse's order. We sailed January 5 from San Francisco on the transport "Sherman." Arrived in Honolulu the morning of the 13th. Such a pretty picture as met our eye! Honolulu sits partly within an amphitheatre of mountains. The city fronts upon a good harbor, with a considerable area of low and comparatively level ground next the water, upon which the business section is built. Some of the old residences are also built here. There has been much home building of the more modern type on the hill sides, also in the deep valley recesses and along the ocean beaches.

It had been raining every day for a month, and rained at short intervals all the time we were there, which was till noon of the 15th, so the foliage was at its best, and that means a good deal. Honolulu has been called the Paradise of the Pacific, and well named it is. I certainly never saw anything so pretty as the tropical trees and plants—flowers with the most brilliant colors, but no perfume. They have fine street cars, and we made good use of them. The homes and lawns on some of the best residential streets are most attractive. Parks—even the little we saw of them in the pouring rain—made us wish we could see some of them on a clear day. They have an aquarium, not large, but filled with a very choice collection of tropical water fish of such bright, beautiful colors and most unusual shapes. The fish market is said to be one of the show places in the early morning—eighty-eight kinds of fish on record. Manoa Valley was one of the pretty rides we took past the colleges. There is a mile of stone fence covered with night blooming cereus. What a sight this must be when in bloom!

Ex-Queen Liliuokalani's residence on Washington Place is a fine looking house of colonial style, standing in the midst of a beautiful park. The executive building, or capitol, was formerly Iolani Palace, the state residence of the last two sovereigns of the kingdom of Hawaii. It now contains the official chambers of the governor. The building is of two stories above a basement. Colonnaded balconies on the four sides upon both floors, ending in towers at the corners. This was completed in 1883 at a cost of $340,000, covering a ground plan of 15,000 square feet in the midst of their handsomest park. The monarchy's throne room (now used as a legislative chamber) has much of the royal fixtures and decorations still preserved; a great deal of the furniture in the public offices consists of relics of royal housekeeping.

I had letters to two of the nurses at the Queen's Royal Hospital, and spent a very pleasant hour there while being shown through. This the Queen Lill built, before she abdicated her throne, free for natives. It is a large building and stands in a 16-acre park; the avenue leading up to the door has a row of royal palms on either side. The natives are so very musical. The nurses say that when they arrive at the hospital, no matter how ill or how battered up, they, as a rule, bring a musical instrument with them. There was one being played upon all the time we were there.

In the evening of Monday we went to the dance given at the Moana Hotel. It is the custom whenever a transport is in port for one of the large hotels to give them a dance, and as most of the first-class passengers are army people who both dress and dance well it was rather a pretty sight to watch them.

The curio shops are most fascinating with their native-made wares. I spent my money like a sailor (or a nurse). The girls threatened to take my purse away from me.

Another very pretty custom here: The last morning the transport is in port the Royal Hawaiian band comes on board and plays, chiefly national airs, for about two hours. When the weather is nice they come in their white uniforms, and when it rains, as it did that morning, they wear their kahkis. I never shall forget how it poured, for I was out in it and was soaked to the skin. One doesn't know much about rain till one has seen it rain in the tropics.

We sailed on Tuesday at 11 A.M. Guam was our next stop—a 14-day trip from Honolulu—but we had a calm sea most of the time and made it in 13 days. Guam is the largest of the Ladrone group of islands. Because of the formations of coral reefs near shore and because there is no dock, vessels anchor out about two miles. The U. S. Government became possessed of Guam about a month later than the Philippines. It is under the control of the U. S. Navy, and the ranking naval officer is Governor-General of the island. It is about 32 miles long by 4 to 9 wide. Agana, the capital, has a population of 1100, 300 of which are white, the rest natives. A custom here is this: The Governor gives a reception and lunch for the first-class transport passengers and sends out small boats to take them off. We were landed at a wooden landing stage; there took native conveyances to the capitol, a distance of five miles over a very nice road made of crushed coral, white and almost as smooth as asphalt. Little nipa shacks, native huts, were scattered all along the way, nestling in among the cocoanut, banana, orange and lemon trees. Agana is a pretty little place, but there is nothing much of special interest to be seen there. The palace is a large, comfortable house—nothing more. We had an excellent lunch, for which we were very thankful (going ashore always gives us such an appetite) and a very pleasant time.

We had had at our table on the transport a Miss Tupman, a nurse from California, who came on to Guam to be married to a young naval doctor. She had gone ashore early. He came for her in a launch and they went right to the Governor's house and were married there. So we saw them again. She sat at our table and was very nice, but her name has gone from me. You should have seen her trunk when it came up out of the hold; some of the army girls had spent the entire afternoon on Sunday trimming it—six pairs of old shoes, large and small, small stockings, hearts of all sizes were pasted all over it.

It is now two A.M. I am on night duty, and a miserable time I am having trying to sleep. The days are so warm and ours is a double house. The houses are built so open one can hear every sound.

I must stop to give a man who has a temperature a cold sponge.

I will write later about Manila and our trip down here.

Mosquitoes are dreadful to-night.

Sincerely,

EMMA ROTHFUS.

A FEW QUESTIONS.

Editor of the Gazette:

WILL you kindly have answered the following questions in the Trained Nurse Department of the DIETETIC AND HYGIENIC GAZETTE?

1. Name three infectious bacteria and state where they may be found.
2. What work is done by bacteria in nature?
3. Name germs commonly encountered in surgery.
4. What do you understand by Koch Circuit?
5. Mention some varieties of bacteria in regard to their arrangement with one another.
6. Name varieties of cocci according to their functions.
7. When and by whom was the microscope invented?

Sincerely,

S. J. S.

Hartford, Conn.

We will answer our correspondent's questions briefly, and refer for particulars to any of the standard works on bacteriology.

1. Bacillus of tetanus, found in the soil and in dust; bacillus of diphtheria, found in milk and in the human throat; the tubercle bacillus, found in contaminated dust. 2. Putrefaction, some kinds of fermentation, peptonization of milk, assimilation of atmospheric nitrogen, etc. 3. Streptococcus, staphylococcus, tubercle bacillus. 4. The expression "Koch Circuit" is not in current use, and it is impossible for us to interpret its meaning. Perhaps it refers to the postulates or "laws" of Koch. Will "S. J. S." please explain? 5. Diplococci, in pairs; streptococci, in chains; staphylococci, in bunches. 6. Micrococcus ureæ causes ammoniacal fermentation of urine; diplococcus of pneumonia, found in lobar pneumonia; staphylococcus pyogenes albus, and aureus, are found in pus. 7. Probably by Jansens, about A.D. 1590.

BANQUET OF ST. BARNABAS HOSPITAL ALUMNÆ, MINNEAPOLIS.

ON the evening of June 12 Donaldson's Tea Rooms were the scene of a most delightful reunion, when the Alumnæ Nurses of St. Barnabas Hospital entertained the classes of 1906 and 1907 at their annual banquet.

Covers were laid for thirty-five and the table decorations were in lilacs, representing the colors of the hospital, violet and white.

After partaking of the sumptuous banquet the guests were entertained by a program of toasts. Mrs. C. Roberts as toastmistress gave the address of welcome to the two classes latest graduating, in the course of which she urged upon them to avoid becoming merely commercial, though living in an age of commercialism.

Miss H. Stevens, responding for the class of 1906, spoke of the elation which inevitably fills the new graduate, who at the same time realizes that the difficulties of the training which she is so rejoiced to have completed were undoubtedly the very things needed to make her a successful nurse. Miss R. Babcock, for 1907, emphasized the tantalizing nature of nursing ideals as well as of other ideals, in constantly running away from their pursuers. "The Grinding Out of Nurses" was the subject of a toast by Miss E. Hamilton, sent from New Brunswick and read on the occasion by Miss L. Gaines. Miss Hamilton referred facetiously and otherwise to the various mills from which floods of nurses of varying abilities and qualifications are turned out every year. She congratulated the public and the nurse on the new piece of machinery—represented by the nurse's state registration law recently passed—which would help, so she prophesied, to grind "exceeding small." "The Nurse in Exile," a letter from Miss D. Payant in far away Texas, contained an amusing account of unusual features of nursing made necessary by conditions there.

"Once upon a Night — My Story," by Miss M. Rhodes, at present night supervisor at St. Barnabas Hospital, consisted of the story of a class prophesy made around steaming chafing dishes and of the way in which the years had and had not fulfilled it.

Miss C. Rankilleour read an interesting little paper on "Some Pleasant Days in a Nurse's Life," in which she touched on those features both in the training and later in private nursing which more than compensate for the disagreeable features of the work.

Miss A. McEachern, whose name appeared next on the program, was unable to be present. Miss M. Paterson, who has recently taken charge of the work of District Nursing in Minneapolis, was obliged to be present at the opening meeting of the National Conference of Associated Charities, held in the Auditorium that night. The nurses were unable therefore to hear her tell "Why I Like District Work."

The program was concluded by Miss L. Bennett, who spoke on the subject "Consider the Nurses How They Grow,' in which she contrasted the raw probationer with the finished product in a most interesting manner.

Among those present were Miss Flora Thompson, class '99, in charge of the hospital at Paynesville, Minn.; Miss B. Erdmann, class '99, superintendent of nurses at the City Hospital of Minneapolis; Miss B. Johnson, class '01, of the City and County Hospital, St. Paul; Miss C. Driscoll, class '98, of Winnipeg, Canada; Miss C. Knierum, class '02, in charge of the Humane Hospital for Children in this city; Miss L. Staples, class '99. superintendent of St. Barnabas Hospital, Minneapolis, Minn.; and Miss H. Hartry, superintendent of nurses, St. Barnabas Hospital, Minneapolis, Minn., Honorary Member of St. Barnabas Hospital Alumnæ.

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

Hiccough in Infants can often be cured by fastening a bandage around the abdomen, restraining the diaphragm.

To Soften Plaster Casts.—Acetic acid brushed in a line over a plaster-paris bandage will render it soft, and in a few minutes it may be cut with an ordinary knife.

To Relieve Thirst.—For thirst in surgical operations it will be well to remember Semmola's glycerine drink, which is often exceedingly grateful. It is one ounce glycerine and thirty grains citric acid to a pint of water.

Migraine.—During an attack of migraine the feet are often found to be very cold, and the adoption of measures to restore warmth improves the circulation, and often gives at least some measure of relief from the headache.—*Hospital.*

To Retain Cotton on a Smooth Probe.—Rub a little wax on the probe, warm slightly and wrap the desired amount of cotton on. The wax will cool and retain the cotton and can be warmed again and the cotton readily removed.—*Wisconsin Medical Recorder.*

Alcohol in Nephritis.—"As it is acknowledged by all that alcohol is an important cause of chronic nephritis, it is only reasonable to suppose that its continued use will aggravate an existing condition. It should therefore, as a rule, be prohibited." —Dr. James Tyson, *New York Medical Journal.*

Water in Pneumonia.—"Water, plenty of it in small quantities, cool and fresh. It both refreshes and facilitates natural elimination. I intend to reiterate the word 'refresh' in the treatment of pneumonia. Refresh the patient with cool, fresh air. Refresh with water, and plenty of both."—Dr. W. P. Northrup, *Medical News.*

The Hot Bath in Fevers.—"The heroic applications of cold externally and in feeble children with circulatory failure is undoubtedly detrimental; therefore whenever a child's extremities are cold and the temperature is high, a hot bath and enteroclysis are to be preferred."—Dr. Augustus Caillé, *Post-Graduate Medical Journal.*

To Cool Water Without Ice.—When it is impossible to get ice, water may be made cold in the following way: Wrap a porous jug in wet flannel, covering it in such a way that no part of the jug is exposed to the air. Place the jug, filled with water, in an open window exposed to all the air there is, keeping the flannel wet. In an hour the contents of the jug will be cold as if iced.—*Nurses' Journal of the Pacific Coast.*

A HANDY SOLUTION TABLE.—

SOLUTION.	METRIC MEASURE.	DOMESTIC MEASURE.	APOTHECARIES'.
1:1000	4.0 cc. to 4000 cc.	1 teaspoon to gallon	ʒj to C.j.
1/10 of 1%	1.0 cc. to 1000 cc.	15 drops to quart	M.xv to O.ij.
1:500	8.0 cc. to 4000 cc.	2 teaspoons to gallon	ʒij to C.j.
⅕ of 1%	2.0 cc. to 1000 cc.	30 drops to quart	ʒss to O.ij.
1:200	20.0 cc. to 4000 cc.	5 teaspoons to gallon	ʒv to C.j.
½ of 1%	5.0 cc. to 1000 cc.	1¼ teaspoons to quart	M.lxxv to O.ij.
1:100	10.0 cc. to 1000 cc.	2½ teaspoons to quart	ʒijss to O.ij.
1%	5.0 cc. to 500 cc.	1¼ teaspoons to pint	M.lxxv to O.j.
1:50	20.0 cc. to 1000 cc.	5 teaspoons to quart	ʒv to O.ij.
2%	10.0 cc. to 500 cc.	2½ teaspoons to pint	ʒijss to O.j.
1:25	40.0 cc. to 1000 cc.	2½ tablespoons to quart	ʒx to O.ij.
4%	20.0 cc. to 500 cc.	5 teaspoons to pint	ʒv to O.j.
1:20	50.0 cc. to 1000 cc.	3 tablespoons to quart	℥jss to O.ij.
5%	25.0 cc. to 500 cc.	1½ tablespoons to pint	ʒvj to O.j.

N. B.—These quantities and equivalents are only approximate, but sufficiently accurate for most requirements. Solutions of any desired quantity or strength may be readily calculated from the above quantities.

%=per cent. (from *per centum*—per hundred).
ss = ½ (from *semis*—one half).
M. = minim. (from *minimum*—smallest quantity: equivalent to about one drop (of water) .60 cc.).
cc. = cubic centimeter, metric unit of measure = about 16 minims.

Frequently when liquids are indicated, the letter *f*, or *fl*, is prefixed, indicating fluid ; as fʒj, or fl℥j.

By the term "saturated solution" it is meant that the liquid has dissolved all of the substance that it is capable of dissolving at the ordinary temperature—59° Fahrenheit.

ʒ = dram (from *drachma*), equal to 60 minims, or 4 cc.
℥ = ounce (from *uncia*), equal to 8 drams (480 m.), or 30 cc.
O = pint (from *octarius*), equal to 16 ounces, or 500 cc.
C = gallon (from *congius*), equal to 8 pints (4 quarts), or 4000 cc.

There are two pints (32 ounces) to the quart, which is approximately equivalent to 1,000 cubic centimeters, also known as the *liter*.

—FRED I. LACKENBACH, in *Nurses' Journal of the Pacific Coast.*

SOLUTION TABLE FOR BICHLORIDE OF MERCURY.—

SOLUTION.	METRIC SYSTEM.	TABLETS AND CONCENTRATED SOLUTIONS.
1:1000 1/10 of 1%	1.00 gm. bichloride, or 16.00 cc. solution 1:16- to 1000 cc.	Two (7½ gr.) tablets bichloride, or ʒiv solution 1:16, to the quart.
1:2000 1/20 of 1%	0.50 gm. bichloride, or 8.00 cc. solution 1:16- to 1000 cc.	One (7½ gr.) tablet bichloride, or ʒij solution 1:16, to the quart.
1:4000 1/40 of 1%	0.25 gm. bichloride, or 4.00 cc. solution 1:16- to 1000 cc.	½ (7½ gr.) tablet bichloride, or ʒj solution 1:16, to the quart.
1:5000 1/50 of 1%	0.20 gm. bichloride, or 3.00 cc. solution 1:16- to 1000 cc.	1 part sol. 1:1000 to 4 parts water, or M.xlviij sol. 1:16, to quart.
1:10,000 1/100 of 1%	0.10 gm. bichloride, or 1.50 cc. solution 1:16- to 1000 cc.	1 part sol. 1:1000 to 9 parts water, or M.xxiv sol. 1:16, to quart.
1:15,000 1/150 of 1%	0.067 gm. bichloride, or 1.00 cc. solution 1:16- to 1000 cc.	1 part sol. 1:1000 to 14 parts water, or M.xv sol. 1:16, to quart.
1:20,000 1/200 of 1%	0.05 gm. bichloride, or 0.75 cc. solution 1:16- to 1000 cc.	1 part sol. 1:1000 to 19 parts water, or M.xij sol. 1:16, to quart.

—FRED I. LACKENBACH, in *Nurses' Journal of the Pacific Coast.*

Book Reviews.

THE CARE OF THE BABY. By J. P. Crozer Griffith, M.D., Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Fourth Revised Edition. 12mo of 455 pages, illustrated. Philadelphia and London, W. B. Saunders Company, 1907.

This book is primarily intended for the mother, and as such should be of great benefit not only to the mother, but to nurses as well. It will also prove of help to the medical man. Chapters are given on before the baby comes, the baby, the baby's growth, the baby's toilet, the baby's clothes, feeding the baby, sleep, exercise and the care of the sick baby. Helpful formula are given in the appendix if they are to be used under the directions of a physician, but we would hesitate to recommend a mother to use some of the remedies given. Such, for instance, as formula No. 82, containing corrosive sublimate, or 89 phenol solution, "to be dabbed on the parts and let dry;" or again No. 92, which contains bromid of potash and chloral, or again the advice given on page 288, for treatment of convulsions, that "when no physician can be obtained the child be made to inhale a quantity of ether poured upon a towel and held close to the nose until it becomes relaxed." But words of caution are given which may serve to obviate harm in the treatment of serious complaints in the absence of the physician.

PSYCHOLOGY APPLIED TO MEDICINE. Introductory studies by David W. Wells, M.D., Lecturer on Mental Physiology and Assistant in Ophthalmology, Boston University Medical School; Ophthalmic Surgeon, Massachusetts Homeopathic Hospital, Boston. F. A. Davis Company, Philadelphia, 1907.

This book treats of reason and instinct; habit; sensation; hypnosis; psychotherapeutics, etc., in the practice of medicine. It will be found interesting and doubtless prove helpful.

INTRODUCTION TO INFECTIOUS AND PARASITIC DISEASES, Including Their Course and Manner of Transmission. By Millard Langfeld, A.B., M.B., Professor of Bacteriology and Clinical Medicine John A. Creighton Medical College, Omaha; Visiting Physician St. Joseph's and Douglas County Hospitals, and Bacteriologist the Omaha City Board of Health. With an introduction by Lewellyn F. Barker, Professor of Medicine at the Johns Hopkins University. With thirty-three illustrations. P. Blakiston's Son & Company, Philadelphia, 1907.

This book, we are told, was primarily written for nurses, but through the solicitations of friends it was broadened and made to take the place of a manual on the above indicated subjects for physicians. It will prove a useful and instructive book, and as such should be found on the table of the general practitioner of medicine.

THE NURSLING. The Feeding and Hygiene of Premature and Full Term Infants. By Pierre Budin, Professor of Obstetrics, University of Paris; Director of the Clinique Tarnier, etc. Authorized translation by William J. Maloney, M.B., Ch.B., Fellow of the Obstetrical Society of Edinburgh. One hundred and eleven diagrams in color and other illustrations. London, The Caxton Publishing Company; New York, The Imperial Publishing Company, 1907. Pp. xxiv-199.

The distinguished author of this book, the successor of Tarnier, is better known as an obstetrician than as an authority on pediatrics. In future, however, he is likely to be remembered most gratefully on account of his epoch-making work in establishing and animating the Consultation for Nurslings of the Clinique Tarnier—a work of such efficiency in saving infants from disease and death that it has been imitated in all parts of France. Indeed it was in this cause that he met his death, having contracted an attack of pneumonia in southern France while helping to organize a new "consultation."

In this book Budin gives us the benefit of his rich experiences in the management of his clinics and "consultations." Every principle laid down in the ten lectures of which the book is composed is abundantly supported by detailed accounts of actual cases, supplemented usually by charts which present the salient points of the case history by the graphic method. All sorts of statistics finding a place in the lectures and the appendix are reduced to graphic form, making this treatise emphatically a *book of curves.*

A third of the book is devoted to the care and feeding of weaklings; considerable attention is given to the management of incubators and the arrangement of hospitals for infants. There is a very satisfactory treatment of the use and abuse of the wet-nurse, a question which the author has had unusually good opportunities for investigating.

Mixed feeding and artificial feeding form the topics of the greater part of the lectures. The subject is developed most carefully and scientifically; the needs of the infant, the composition of human milk and of the animal milks most often substituted for it, and the various dangers of artificial feeding, all are taken into the account. The average reader is inclined to anticipate the results of this careful research and to take it for granted that our author will conclude that the proper diet for the hand-fed infant is a milk so modified as to approach the exact chemical composition of mother's milk. Not so, however. The author shows by his records that he has obtained most gratifying results from the giving of undiluted and sterilized cow's milk, and it is this that he recommends in all cases where a wet-nurse is not possible. He does not leave us without minute instructions as to the mode of obtaining, sterilizing and administering the milk; and his directions as to the amount of milk for each case are particularly explicit. On this question—the milk ration—the book is nothing if not practical. Theories as to the ideal substitute for human milk, whether raw or sterile, modified or plain—have here no place. The reader is impressed with the conviction that Dr. Budin faced what he saw to be a desperate situation for the French mother and child, and employed the simplest and most practicable means to avert the peril. That he has succeeded every one knows. And he has given us a well-written and convincing account of his successes, for which we are grateful. The reader will hesitate to follow to the letter the methods here described, but he will hold less tenaciously to any prejudices of which he may have been guilty before reading this book.

As a specimen of book making the volume is almost without a fault and very attractive in appearance. "The Nursling" should be read thoughtfully by every physician and by every nurse who has the responsibility of caring for infants. F. B.

TUBERCULOSIS AS A DISEASE OF THE MASSES AND HOW TO COMBAT IT. Prize Essay. By S. A. Knopf, M.D., New York, Director in the National Association for the Study and Prevention of Tuberculosis; Associate Director of the Clinic for Pulmonary Diseases of the Health Department; Visiting Physician to the Riverside Sanatorium for Consumptives of the City of New York, etc. Fourth American Edition, revised and illustrated. 104 pages. New York, Fred. P. Flori, 1907.

This essay, which received the first prize awarded by the Berlin International Congress in 1900, has been translated into 23 languages and is brought easily within the reach of the vast majority of sufferers from tuberculosis the world over. It requires no recommendation, therefore, and hardly needs mention, except to remind the few who have not seen it of their duty to themselves and to others—the duty of reading, and of inciting others to read, until everybody who knows how to read shall also know how to fight intelligently in the combat now waging against this disease. The book is written and printed for the people. The price is so small that no one need deprive himself of a copy, and in order to facilitate its distribution it is kept on sale by *Charities and the Commons* at 105 East 22d Street, New York.

As a motto for his essay the author has written: "To combat consumption as a disease of the masses successfully requires the combined action of a wise government, well trained physicians and an intelligent people." His book gives us all that is actually necessary for the information of an intelligent people, leaving the wise government and the well-trained physician to their own resources. And yet it is emphatically a book to be read by everybody. Its wise selection of salient points, avoidance of pedantry and technicalities, and directness of style commend it to all sorts and conditions of readers.

It is particularly a book for the trained nurse, for it puts here where she can see the disease from the patient's point of view.

In addition to the original essay this edition contains chapters on home hygiene, school hygiene, installation of the sanatorium treatment at home, and a historical review—very brief—of the anti-tuberculosis movement in the United States. Every one of the 30 illustrations tells its part of the story better than many words could do it.

We are not writing an inventory of these 104 pages, because if the reader has not read Dr. Knopf's book we expect him to do so now. F.B.

THE AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, M.D., editor "The American Illustrated Medical Dictionary." Fifth Revised Edition. 32mo of 574 pages. 1906. Flexible morocco, gold edges, $1.00 net; thumb indexed, $1.25 net. W. B. Saunders Company, Philadelphia and London.

This book contains a generous pocketful of information in condensed form, very conveniently arranged, and readily accessible. The tabular method of assembling correlated facts is as well developed as the size and scope of the book will allow. The 50, or more, tables cover all sorts of topics, from a list of the acids to a classification of baths, positions, tumors, etc. Tables of weights and measures and a dose table complete the book.

The fifth edition is up to date, and more than satisfies the reasonable demands ordinarily made upon a pocket dictionary, although we find no mention of *heart-block, Schott-bath* and *Grocco's sign,* to mention three terms lately introduced into common use. We also notice errors in the definition of *anterograde* and *ion,* while the definition of *formula* lacks completeness. These slight imperfections are hardly noticeable, however, among the hundreds of brief and concise definitions which make the volume very serviceable to students, physicians and nurses. F. B.

THE
DIETETIC AND HYGIENIC GAZETTE
A MONTHLY JOURNAL OF PHYSIOLOGICAL MEDICINE

Vol. XXIII. NEW YORK, SEPTEMBER, 1907. No. 9

SOME FURTHER REMARKS CONCERNING GERMS.

By John W. Wainwright, M.D.,
New York.

In the paper, "To What Extent Are We Indebted to Germs," we called attention to numerous kinds of germs or bacteria and endeavored to briefly note some of their characteristics. Pathologic or disease producing bacteria were scarcely more than alluded to, as space for an article of this character in a medical journal is of necessity limited. Having exhausted the available space at our command for the paper alluded to in the Dietetic and Hygienic Gazette for April, 1907, we return to the subject with additional information which it is thought may not be familiar to the average reader.

That the majority of existing germs are essential to the well being of man, as to all life, was made clear in the previous paper, and this fact becomes more certain the further our studies are extended. Not alone are we dependent upon germs for health, but for many of the pleasures which we enjoy. Thus insignificant as they may appear to some, they have nevertheless played a part in the moral and intellectual advancement of the inhabitants of the world. Where persuasion has not availed to advance the standards of ethics, more particularly in earlier ages, fear or superstition has been made to enact an important rôle and bacteria have played a part in the drama. Like the wrath of God, as exhibited in storms, floods, pestilences, famines, as in the thunders and lightnings, bacteria have been used to reveal His divine presence. It is related, for instance, that twice a year in the Church of St. Genaro (Januarius) in Naples, May 1 and September 19, a crystal vial containing a dark solid substance was in earlier times exposed under a glass case to the gaze of the populace. This was declared to be the blood of St. Januarius. During the night the solid was changed to a liquid, which to all appearances was blood. This was declared by the priests as a miracle. In 1799, when the French, under General Championet, entered Naples, the miracle refused to work, which fact caused a great uproar among the people of the city. General Championet, upon learning the cause of the excitement, summoned the monks before him. They declared that the liquefaction of the blood of St. Januarius was the work of God and that they were powerless to bring it about. The General, however, informed them that if the miracle did not come off as promised on the following morning every one of them would be shot. It is needless to remark that it came off on time. It afterwards transpired that these monks preserved from year to year a substance which they had accidentally discovered which, when added to the dry material caused it to liquefy and assume the appearance of blood. The innocent cause of this marvelous effect was the micrococcus prodigiosus. The bacteria had not, of course, been discovered by the monks, only its peculiar action, which was used to so good an effect for a number of years. The effect of this may be easily understood. The ignorant and credulous people were made to believe it a miracle of God and, as such, made manifest for the good of those who believed, evil to those who disbelieved.

Many similar manifestations are recorded which, when properly understood, are as easily explained.

If boiled potato, bread soaked in broth or nutrient gelatin or even without other addition than excessive moisture be exposed for some time to the temperature of the ordinary living room, it will be found that in a few days in addition to the moulds of various colors that develop there appears minute yellow, pink or brown spots which upon examination with a high power microscope are found to consist of fungi, micrococci and bacteria. There are numerous species of these several bacteria found in the soil, air and water. Putrefaction and decomposition changes are associated with changes of color, these colors being due to the activity of some of the color forming organisms.

We may thus readily trace these color manifestations to bacterial activity. Stigmata, of which much has been written, can be referred in some instances to the action of bacteria.

We have bacteria which produce odors or esters, perfumes. One species, for instance, the bacillus esterificans, will in favorable media develop the odor of fresh apples; another, the pyocyaneus, pigments, at times a fluorescent pigment; another a blue pigment, pyocyanin, which by oxidation changes into a reddish brown, pyoxanthose. A solution of pyocyanin in chloroform is changed into a green by the action of sunlight, while a watery solution of this coloring matter is changed to green by the action of chlorin. The green chloroform solution, when treated with dilute sulfuric acid, turns to a deep yellow, and this, upon being neutralized with an alkali, is again restored to a green by shaking with chloroform.

A pigment is elaborated by the micrococcus prodigiosus, which is insoluble in water, but soluble in alcohol. The pigment extracted in this manner so closely resembles the anilin dyes that in old cultures it has the peculiar metallic luster of anilin. Other pigments are obtained which are not soluble in alcohol, while still others are not soluble in either water or alcohol. These various pigments have almost all shades or colors, from bright red to and including blue, brown, yellow, green and violet. Some of them are contained in the protoplasm; in others it is diffused into the surrounding media. It is the action of bacteria on iron that causes the discoloration in decaying teeth, sulfid of iron being formed in the enamel, dentin and pulp.

The energy of certain microorganisms is at times employed in the production of light. In certain waters on clear, dark nights, especially at the mouth of rivers, may be observed beautiful phosphorescent or fluorescent glows at the extremities of a rowboat or following the dip of the oars. These bacteria can be grown in nutrient gelatin.

During the process of putrefaction, which process is carried on by bacteria, the albumen molecule is decomposed and alkaloids or ptomains are formed, which resemble in their chemical structure and physiological effects alkaloids elaborated in plants. These alkaloids are built up by the bacteria in either dead or living tissue. Some are harmless, while others are violent poisons. They are formed during the same process of change. Many have been synthetically produced in the laboratory which were found identical with those accompanying changes above referred to.

The bacillus prepolleus has strong and singular properties which enable it to decompose coagulated albumen by attacking the albumen and carbohydrates simultaneously, producing such a quantity of ammonia that the acid formed from the carbohydrates is neutralized. This same bacillus or germ splits up urea and decomposes the nitrites with production of free nitrogen. It also imparts an agreeable odor or aroma to milk. The germ known as the micrococcus prodigiosus will develop on bread or potatoes a red pigment resembling drops of blood (also referred to in relation to the miracle in Naples). Another, the bacillus ruber, produces a red color. It is this germ which produced the phenomena of red snow observed in an earlier century.

Bacteria produce, as shown in the previous paper, toxins and ptomains. They also produce enzymes, which antagonize the effects of these toxins and ptomains. If a person, for instance, should be poisoned by these agents and he have sufficient resistance to tide him over the crisis of the infection, it is because these enzymes limit the activity of the germs which produce the poison by means of agents, which they themselves produce, and the patient recovers. This is nature's method of establishing a limitation to infectious diseases.

In this connection we might note that pathogenic or disease producing bacteria are rendered inactive after varying periods following death. Thus, the bacillus prodigiosus are dead six weeks after animals infected with them have been buried in the earth, the animals having died from the infection produced by experimentally introducing the germ for the purpose of determining these facts. Staphylococcus pyogenes aureus showed a similar resistance. The vibrio of cholera were dead after twenty-eight days. Bacillus typhosus and diphtheria fifteen to twenty days. The plague bacillus three weeks, tubercle bacillus three weeks. These experiments show that disease producing germs are short lived after interment.

Bacteria are positively necessary to the well being of man. Bouchard determined, for instance, that rabbits fed upon vegetables which have been thoroughly sterilized could not exist, while control animals fed upon the same vegetables in their natural state thrived. Those which perished did so from intestinal troubles caused by nonassimilation of the sterilized or bacteria free foods. It will thus appear that food entirely free from bacteria is not suitable for animal life. They are indispensable to proper digestion, but this fact must not lead us to careless selection or preparation of foods, as there are many disease producing germs which, on the contrary, are destructive to the health of man and to certain animals.

THE DILATED STOMACH IN THE LONG-WAISTED WOMAN.*

By A. Ernest Gallant, M.D.,

New York City.

"A stomach that is seldom empty . . ." (Horace.)

The epidemic of Nephro-pexo-mania which has, during the past fifteen years, so seriously affected the surgical portion of the community, is fortunately on the wane, and if the reaction is kept within proper limits will result in great benefit to those unfortunates who suffer so seriously from splanchnoptosia, in greater or less degree.

Owing to the ease with which it can be palpated and replaced, the acuteness of the symptoms and quick relief when the patient is placed on her back, and the ease with which the surgeon can bring out the kidney and suture it to the loin, has led to many false hopes, frequent failure and fatuous disregard of other viscera as the more frequent source of the most constant and intractable disorder. The relative importance of these conditions is shown in table on following page from the *International Clinics*, 1905, vol. IV., fourteenth series, pp. 197.

My own experience in many hundred cases confirms the view of Glenard and others that the presence of a dislocated kidney, other than the traumatic variety, is in nearly every case an indication of dislocation, distention, and distortion of other abdominal viscera, especially the stomach and transverse colon.

The Long-Waisted Woman: When our attention is directed to a patient of this class we notice that she seems to be above the average height, her figure lacking that fullness which gives to the well nourished woman that air of comfort and style; her face looks older than in other cases. When standing she rests upon one foot, preferring to lean against something for support; shoulders drooping, doubling on herself, a

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*An address before the Richmond County Medical Society, Tompkinsville, Staten Island, N. Y. May 9, 1907.

TABLE OF SYMPTOMS IN GLENARD'S DISEASE DIFFERENTIATING THE KIDNEY GROUP FROM THE GASTRO-INTESTINAL GROUP.

	The Kidney Group.	The Gastro-intestinal Group.
Onset	Acute attacks, intermittent from day to day, Dietl's crises more or less constant.	Chronic.
Pain	Abdominal, hypochondriac, through to back, down loin, very intense in a few hours.	Epigastric, cardiac, to left shoulder and arm, after eating.
Abdomen	Distended on same side.	Bloated.
Stomach	Nausea, vomiting, even when empty.	Regurgitation of gas, waterbrash.
Bowels	Constipation-diarrhea, stools dark or clay color.	Seldom move without drugs, catarrhal colitis.
Urine	Scanty, dark, acid, with or without pus or albumen.	Usually frequent, small quantity, often dysuria.
Pulse	Small, rapid, high tension.	Small, rapid, low tension.
Corset and clothing	Must be removed at once.	Must be worn loosely all the time.
Associated with	Hydronephrosis, jaundice, or hematuria.	Autointoxication, malnutrition, loss of flesh and strength, headache, sleeplessness, nervousness, physical and mental malaise, uncertain temper, etc.
Response to treatment.	Early relief when placed in inclined dorsal posture. Return of attack when resume upright posture.	All ordinary measures fail to afford permanent relief.

pitiful picture of one lacking in muscular strength and vigor.

When in conversation her voice has a natural ring, quite different from the rapid "sing-song" pitch when relating the history of her long standing illhealth, which includes so-called "bilious attacks" with nausea or vomiting, headache, pain and swelling along the loin, only relieved when she can loosen her clothing and lie down (Ditel's crises of prolapsed kidney). The more constant (gastro-intestinal) symptoms include indigestion, bloating, constipation, loss of weight and strength, she has never weighed as much as her age and height would entitle her to, and also that she has never worn or is unable to wear tightly fastened clothing or corsets.

Measurements: Comparative measurement of the waist and hips indicates that the latter is from two to twelve inches below the normal, and her weight will be below par, on an average, five pounds to each inch decrease in the circumference of the hips. From careful measurement of several hundred women we find that there is a disproportion between the total height and the length of the trunk, as determined by the distance between the supra-sternal notch and the top of the symphysis pubis (Pegulo-pubic of Becker and Lanhoff), which ranges from 19 to 23 inches; approximately 26 per cent. measuring nineteen and twenty inches and 23 per cent. twenty-one and twenty-two inches. These factors are so constant that one can make a diagnosis at sight.

Inspection of the Anterior Abdominal Wall shows a hollowing in the epigastrium and bulging of the hypogastrium, the whole in outline not unlike an inverted interrogation mark (Fig. 1-B). In thin women the

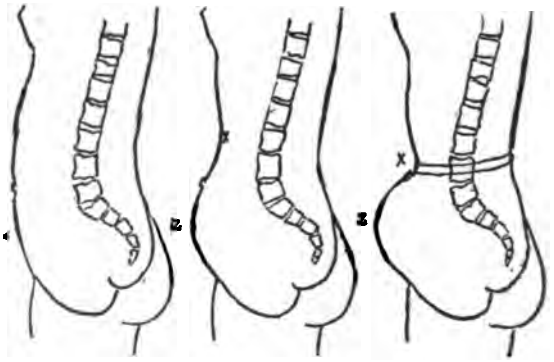

FIG. 1.—Contour of the anterior abdominal wall in Glenard's disease. *A*, normal outline, standing without clothing. *B*, ptosis outline, standing without clothing. *C*, ptosis outline, standing with the waistbands fastened. *D*, outline when in the recumbent posture. *X*, point of maximum flattening. *Z*, point of maximum protrusion.

respiratory rise and fall of the greater curvature of the stomach, which can be distinctly seen. Lead tape measurements from one anterior superior spine to the other show, that the Abdominal Projection may range from one to five inches. (Fig. 2.)

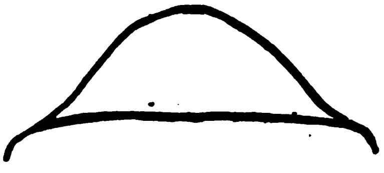

FIG. 2.—Lead-tape outline on a level with the iliac spines illustrating the differences in the contour of the abdominal wall when recumbent (heavy outline) and when erect (dotted outline).

The Greater Curvature of the Stomach has been found below the umbilicus, from one inch to dipping into the pelvis, in 90 per cent., 40 *per cent. lying just above the symphysis.*

The Lesser Curvature of the Stomach was found to lie from ¾ to 3½ inches below the xiphoid in 30 per cent., showing so large a proportion of actual gastroptosia, with or without gastrectasia.

Succession was elicited in 18½ per cent., some when standing others when lying down.

Gastrodiaphany has been used to verify the enlargement of the stomach in a number of instances, but is not of sufficient value to warrant its use in every case.

The Right Kidney has been palpable from one-half to eight inches below the chondral border in 80 per cent. and the left in 2 per cent. In one instance the right kidney had been removed some years before. The dislocated kidney was replaceable in 62 per cent., partially so in 2 per cent., and adherent in 6 per cent.

Splanchnoptosia usually dates from childhood, and is first noticed in the years following puberty; is very common in women who have borne children; may follow after the removal of large abdominal tumors; or severe, protracted illness (typhoid, rheumatism, etc.), with rapid emaciation, and not infrequently results from sudden jolts, falls, etc.

The Modified Corset in the Treatment of Splanchnoptosia: On April 18, 1901, the writer first advocated the use of a modification of the ordinary corset, after postural replacement, for the treatment of Movable Kidney and associated ptoses (*Am. Journ. Obstet.*, 1901, ii, 86, and *Therapeutic Gazette,* July, 1902). This corset, of fashionable design, reaches low down over the hips and to the symphysis in front, gracefully curving in at the waist and out over the hips. The front section is somewhat V shaped, narrowest at the symphysis, broadening out toward the top to make room for the replaced stomach. No belts, straps, buckles, bags, etc., except the ordinary garters, are needed in the properly made garment, which supports the organs replaced when lying down in the semi-opisthotonos posture (Fig. 3).

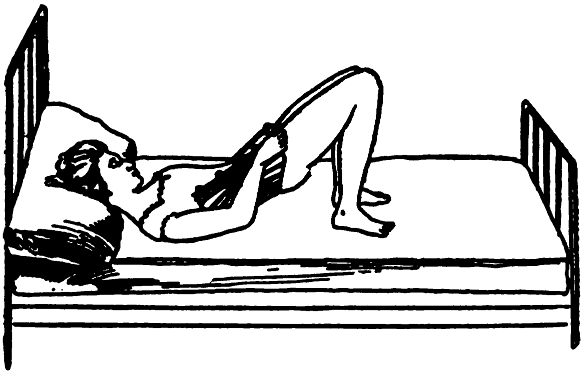

FIG. 3.—Semiopisthotonos posture: Woman lying on bed, hips raised, causing viscera to gravitate toward the diaphragm, when fastening corset for movable kidneys, etc.

Putting on the Corset: The made-to-order corset is laced from the waist upward with thin hat elastic, from the waist down with a strong silk lace, put in loosely ready to be adjusted. When putting on the corset the woman wraps it around her waist, lies down on the bed, raises her hips, as in figure 3, massages her stomach upward toward the diaphragm, fastens the hooks from below upward, and draws in the lower lace as tightly as possible, without lowering the hips, until the lacing has been accomplished. The upper elastic should not be disturbed.

When the corset has been properly fitted and laced it should fit very snugly over the supra-pubic area, very loosely in the epigastrium, otherwise it will cause epigastric distress. When these instructions are carried out the corset should not slip up when the woman sits up, if so the curve at the waist is not what it ought to be. In very thin women, for comfort and appearance, hair pads should be put inside the corset, extending from the anterior spine, back over the hips as far as the eyelet holes behind.

Indications for the Application of a Corset: Given a case with displacement of any of the abdominal viscera, true floating kidney and spleen excepted, in which *the kidney and the lower border of the stomach can be replaced,* when the patient lies down and her hips are raised, and the hydronephrosis, jaundice, or hematuria, subsides by rest in bed with the foot of the bed elevated, the corset may be put on with the assurance of relief and permanent benefit as long as she continues to wear this style of corset.

Contra-Indications: On the other hand, when the kidney is nonreplaceable, with pus in the urine, or persistent hydronephrosis, or the greater curvature of the stomach is adherent to any portion of the cavity below the umbilicus, or to any part of the pelvis, the corset must not be worn until these conditions have been remedied by appropriate operation.

Results: Owing to the fact that over half my cases come from physicians scattered over the United States, Canada and Mexico, and that the women go to the corset maker for duplicates without reporting to their physician, it is impossible to tabulate and classify results, but if such commendations as that of Da Costa, who says: "In many cases of movable kidney I believe it is unwise to operate at all, the use of a properly applied corset being relied on to keep the patient comfortable and safe. *The corset devised by Dr. Gallant accomplishes the purpose more successfully than any* one of the so-called kidney supports"; and, further, the many physicians' wives and patients who are wearing them, after nephropery has failed, and the numerous attempts to imitate the corset, or appropriate the method and the principal of postural replacement, forgetting to give credit where due; if, I repeat, these things count for anything, then are we justified in stating that with a made-to-order corset, put on after this plan, and worn whenever the woman is out of bed, she will at once realize a wonderful sense of relief and comfort, the attacks will cease, and as time goes by there will be a noticeable improvement in her general health, as shown by increasing ability to walk and work, eat and sleep, a gain in weight, and a sense of wellbeing to which she has heretofore been a stranger.

JULIET'S SOLILOQUY.

To fix, or not to fix, that is the question;
Whether 'tis better in the end corsets to wear
And by support to hold up displaced organs,
Or to take ether for a season brief,
And by operation end them? To lie—in sleep;
Once more; and by that sleep to say we end
The "Crises" and the many unnatural attacks
That flesh is heir to, 'tis a consummation
Devoutly to be wish'd. To lie—in sleep;
In sleep, perchance to dream; ay, there's the rub;
For in that ether sleep what dreams may come?
That we may shuffle off this mortal coil,
Must give us pause; there's the respect
That makes calamity of so long a life;
For who would bear the epigastric pain,
The dyspeptic woe, the chronic constipation,
The pangs of ureteral kink, the piss delay'd,
The stain of jaundice and the vomit vile,
That patients with a misplaced kidney make;
When she herself might her quietus take
Under the surgeon's knife? Who would faces
make,
And lace and sweat all one's weary life,
But that the dread of something after death,
The undiscover'd country from whose bourn
No traveller returns, puzzles the ill
And makes us rather wear the corsets that we
have
Than fly to dangers that we know not of?
Thus conscience does make cowards of us all;
And thus the native hue of resolution
Is sicklied o'er with the pale cast of thought,
And enterprises of great pith and moment
With this regard, the surgeons turn away,
Making them lose the gain of operation.

CLIMATE IN THE HYGIENE OF CONSUMPTION.

By Clarence L. Wheaton, M.D.,

Chicago,

Attending Physician Olivet Dispensary, Chicago Tuberculosis Institute.

Hippocrates has well said "Whoever desires to understand medicine thoroughly can by no means neglect the study of the seasons with their variations of the winds, both as to heat and cold and those peculiar to certain regions."

It is generally conceded that pure air stands at the head of all remedial agents capable of arresting tuberculosis; purity of the atmosphere being dependent upon many factors, the subject of climate will be considered in a somewhat general way.

Space will not permit of a too exhaustive consideration of this subject, yet the attributes of climate might be considered in the following order:

Elevation above the sea, dryness of the air, temperature of the air, sunshine, winds, character of the soil, variability of the air temperatures, electricity of the atmosphere.

SUNLIGHT.

All students of climatology recognize the germ destroying power of sunlight, and the utilization of the violet rays of light, notably by Krine of this country, is an argument as to the value of sunlight in the arrest of tuberculosis.

Furthermore, the mental effects of sunshine cannot be overlooked, such as promoting a cheerfulness of disposition and repose of mind in those compelled to live an out-of-door life.

Solar light, through its active rays, as some observer has stated, "reddens the blood, cures chlorosis in the same manner as it restores the color to plants bleached in darkness."

The greater prevalence of sunshine in the Philippine Islands is not believed by some competent observers to be a factor for evil with the native population.

Dr. D. M. Appel, of the Army Medical Corps and formerly physician in charge of the general hospital for consumptive soldiers at Ft. Bayard, New Mexico, writes me as follows:

"With foreigners sunshine, together with the heat and excessive humidity, produces enervation and lowers tissue resistance, thereby increasing susceptibility to the disease (tuberculosis) and accelerating its progress; after inspection, my observation in the Philippines leads me to believe that tuberculosis is not as prevalent there as it is in our large cities. The poorer classes live mostly in nipa shacks in which ventilation cannot be prevented even when the doors and window shutters are closed."

Atmospheric clearness and transparency, the so-called diathermancy, is a test of purity. Dennison, in his Colorado observations of 1876, proved that it steadily increases with elevation by consecutive thermometric observations of the sun's influence at different heights and near sea level and under conditions calculated to exclude radiation. The increasing purity of the air, the absence of dust and smoke or of moisture, with its attendant infusoria, is a decided feature of elevation.

Tyndal has shown that each higher successive stratum contains less and less of infusoria; Mequel, of Paris, found that with rise in elevation the number of bacteria in 10 cm. space was reduced from 5,500 in the Rue de Rivoli, Paris, and 7,600 in the park of Montisuris near by to 600, 85, and 8 respectively in a hotel at Thunet, 560 meters elevation in its environs, while at 2,000 to 4,000 meters high there were none.

Purity, therefore, goes with dryness, coldness, and rarefaction of the air incident to elevation.

On the eastern slope of the Rocky Mountains is a tract of land 280 miles long, extending from Wyoming on the north to New Mexico on the south.

In this region the sun shines for about 70 out of every 100 hours that it is above the horizon. At Denver, which may be recognized in many respects as typical of the entire eastern slope of the Rocky Mountains, the average annual precipitation of rain and snow is 14 inches, the relative humidity is for the winter 57, spring 56, summer 51, autumn 50.

In the study of a given climate altitudes may be classified as high, intermediate and low.

Colorado, northern New Mexico and northern Arizona are illustrative of the high altitudes, while Las Cruces, New Mexico, and El Paso, Texas, furnish a moderate altitude.

Tucson, Arizona, Phœnix, Arizona, and Yuma are comparatively low.

The following table for practical reference I append:

be accompanied by intimate friends or relatives in their journey away from home. The tuberculous invalid is prone to develop nostalgia, which is always a factor for evil in these cases and destroys many lives that might otherwise have been saved. As mentioned in a former contribution* the disease should be recognized before ocular demonstration of the germ is possible.

The author's long residence in Colorado and study of climatic conditions throughout the Southwest has convinced him that too often without regard to the circumstances of the patient or stage of his disease it has been the custom to prescribe change of climate. Nothing can be more cruel or irrational than this, in the case of those too poor to afford the expense incident to a change; it opens the door to regrets which are likely to harass the mind when it most requires repose; in most instances their disease progresses more rapidly to a fatal termination, and in many the expatriated invalid finds not only a foreign climate, but a foreign grave.

	Elevation	Latitude	Soil	Temperature			Humidity	No. cloudy days
				Annual	Dec.	Aug.	Rain fall	
Santa Fe, N. M	7000	33.34	Sand and Adobe	51	32	72	16.1	52
Colorado Springs	6000	38.51	Gravel	47	28	70	15.2	58
Denver, Col	5280	38.76	Gravel and Sand	49	29	76	14.1	63
Flagstaff, Ariz	6300	34.26	Gravel and Sand	53	33	74	16.0	51
Oracle, Ariz	4650	32.50	Gravel and Adobe	60	44	82	17.7	—
Las Cruces, N. M	3850	32.17	Adobe	59	46	77	7.2	18
Tucson, Ariz	2300	32.14	Sand and Gravel	69	50	88	12.0	57
Phœnix, Ariz	1100	32.28	Adobe	70	52	90	9.0	52
Yuma, Ariz	130	32.44	Sand	72	56	96	3.1	18

The ideal climate would be the one possessing the greatest possible amount of sunshine, a pure, dry atmosphere, light winds and porous soil, with elevation sufficient to increase the respiratory act in depth and vigor.

In the selection of a suitable climate for the tuberculous one may consider in a somewhat general way the extent of involvement in a given case, whether it is incipient, or there is extensive destruction of lung tissue, with cavities, or the larynx be involved secondarily with moderate pulmonary involvement, as is frequently observed in our clinical work; a finer distinction than this is of no practical value.

Incipient cases and those moderately advanced do well in the high altitudes of the arid regions; the laryngeal cases, based on personal observation, seem to improve more rapidly in New Mexico than other regions that have been selected.

Patients who leave home seeking a climatic change should have a permanent income of at least $50 per month; they should

The human wrecks by hundreds lie scattered over the desert waste of the great Southwest, or are wandering in the mountain wilderness of some distant State struggling for the mere necessities of life, with death an inexorable companion and all the future dimmed by the shadow of waiting Charon.

To the reader who may select his tubercular cases, fully realizing the responsibility he assumes in prescribing change of climate, I present briefly these facts with the hope that they may be of practical value to

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all who are enlisted in the anti-tuberculosis crusade.

39 Pine Grove Ave.

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APPENDICITIS FROM THE PHYSICIAN'S STANDPOINT.*

By B. S. Talmey, M.D.,

Gynecologist to the Yorkville Hospital, former Pathologist to the Mothers' and Babies Hospital, New York.

In a recent article Bernard Shaw has this to say about the modern surgeon: "When it is a question of earning a thousand dollars in an afternoon it is a very strong temptation to a man who could do that, by performing an operation, to believe that an operation was necessary where it was not necessary." This is a terrible arraignment of such an important branch of our science and we could dismiss it as the loose talk of a social revolutionist if voices from our own ranks would not be heard hurling at us surgeons even severer accusations. In a letter in the last number of the *Medical Record* we read: "The organ (meaning the uterus) is often extirpated for no apparent reason except the undying fondness of some men for notoriety or money." Then the writer adds "next to the uterus and adnexæ the appendix vermiformis and kidney are the most abused organs." Now, the question arises, is there really any foundation for the assumption of the mercenary nature of the modern surgeon.

There is no doubt to my mind that those surgeons who assert that every case of appendicitis ought to be operated upon, as soon as it is diagnosed, have the honest convictions that their opinions are right and that any physician who thinks otherwise is an ignoramus or an unprincipled person. They are led to this opinion by the serious consequences resulting from a delay of the operation they often meet in their consulting practice. I will only mention two serious cases from my own practice.

In the first case of a young girl, 19 years of age, I was called in consultation on the ninth day of her sickness. When the family physician first saw the patient she was in great distress, with high temperature, frequent pulse and severe pain in the cæcal region. He made the diagnosis suppurative appendicitis, but waited for the abscess to be walled off from the general peritoneal cavity before recommending an operation.

I found the patient in a very serious condition, with frequent feeble pulse, high temperature and intense rigidity of the lower abdomen and advised an immediate operation. Two hours later on opening the peritoneum about a pint of thick fetid pus gushed out. The appendix was found gangrenous, about two-thirds having been decayed. I removed the rest of the appendix, drained the wound with rubber tube and gauze and left it wide open. Two months later the wound closed and the patient left her sick-bed.

In the second case, of a boy 18 years of age, I was not so lucky. The patient took sick with pain in the back of the right side and in the right epigastrium four weeks previously and was treated all this time for rheumatism. His condition grew worse, the sensitiveness spreading all over the right side, and another physician was called in who diagnosed the case as appendicitis and sent the patient to the hospital.

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*Read before the East Side Physicians' Association, February 15, 1907.

At the examination I found the entire abdomen very sensitive and rigid. The rigidity was especially pronounced in the right lumbar region extending as far as the cartilage of the twelfth rib and down to the iliac bone. The temperature was 102°, the pulse 108.

At the operation I found the omentum walling off the front of the abscess, and I had to remove a part of it to reach the cavity of the abscess, which extended from the cæcum to the vault of the diaphragm. The appendix had disappeared, only a piece of one centimetre long was left which, with the cæcum omentum and the loops of the other intestines, formed one ulcerated mass, walling off the abscess against the pelvic cavity. The abdominal wound was left wide open for drainage.

In the first two days the condition of the patient seemed to improve, but the meteorism gradually increased and on the fourth day diarrhœa set in and kept on until the patient died, on the fourth day.

Such cases as these tend to show the desirability of an early operation, and we all agree that when the disorder proceeds to the formation of an abscess within the appendix or around it the condition demands an operation, or the chances of the patient's recovery are small indeed. But the crux of the problem lies in the making of the diagnosis. When Dr. Ward [*New York Med. Jour.*, Nov. 10, 1906] feels remorses for having administered morphine and not having operated sooner his patient with severe pain in the epigastrium, without tenderness or rigidity, with a pulse of 80 and temperature of 99°, because the case subsequetnly ended fatally, then we must say that this is going a little too far. How do we know at all that such a case is appendicitis? Does not an everyday bellyache often show even severer symptoms? Thousands of similar cases occur daily without the services of a physician being invoked, and general practitioners see daily hundreds of such cases without ever dreaming to call in a surgeon and submit their patients to a dangerous operation. For, in spite of our modern asepsis and perfect technique, no man knows, when he opens the abdomen for such an operation, whether the patient will get out of bed himself or be lifted out by the undertaker.

It is true that some cases showing at the outset only slight symptoms of an everyday indigestion may turn into a suppurative appendicitis, as in the following case:

A young girl, 14 years of age, took sick after a heavy meal with some pain in the lower abdomen. The temperature was 101° and the pulse 100. A dosis of calomel, to be followed by an enema, was ordered. Temperature and pulse became at once normal after a few good movements, and the child left her bed on the third day. The case was, therefore, surely a common attack of indigestion. But a month later the child takes sick with a similar slight attack of pain on both sides of the lower abdomen with 101 fever and 110 pulse. This time, after the administration of calomel and an enema followed by several good movements, the condition of the patient gets worse. The child is, therefore, taken to the hospital for immediate operation. When I opened the abdomen I found a gangrenous appendix and about two ounces of pus. Happily the patient left the hospital after four weeks.

Now, there is no question that the first attack was already caused by a diseased appendix. Hence the practitioner with whom every bellyache is called appendicitis would not have made a mistake in this case. But it seems to me that because we are not able to make the differential diagnosis between common bellyache and suppurative appendicitis in a great number of cases, our ignorance ought not to serve us as an excuse to operate every painful abdomen in search for appendicitis.

How easily mistakes are made and patients submitted to dangerous operations for pathological conditions which, as Balleray says, exist only in the mind of the physician, show among others the two following cases:

A medical student took suddenly sick

on the street and had to be taken home in a cab. He took at once calomel, with very good effect. But the pain in the cæcal region grew worse and I was called in the middle of the night. The pulse was 110, the temperature 102° F., sensitiveness over the appendix, etc., a classical case of appendicitis. I must confess that if it was not in the middle of the night, I would have sent the patient to the hospital for an operation. As it was I ordered opium and ice applications and decided to wait until the next morning. By this time the patient was so well that he went to college as usual. He is now a practicing physician in this city for the last seven years and is still waiting for his operation.

The other case ended a little more seriously, although not exactly fatally. A young lady, 18 years of age, took sick with pain in the cæcal region, which was so sensitive that it could not be touched. The temperature was 101, the pulse 100. Since she had already taken cathartics with very good results I ordered opium and ice applications. Three days later she was well and out of bed. A month later she had an exactly similar attack and I followed the same treatment with the same result. Some way or other I learned that both attacks occurred simultaneously with the time of her menstruation, and I advised the patient to call for electrical treatment. The cæcal region was still very sensitive to the touch at the examination, but when her attention was diverted by an animated conversation from the affected part the pressure of the electrode as well as that of the finger passed unnoticed. My diagnosis was now "ante-menstrual neuralgia of the right ovary in a somewhat hysterical young girl." I then informed the patient of my changed diagnosis. The result of my candor was that the next month another physician was called, the diagnosis appendicitis was promptly made, the patient taken to the hospital, and a healthy appendix was removed. The operation did not cure the patient; she had her monthly attacks until she got married.

These two cases show the diagnostic difficulties in appendicitis. With all my precautions since I began to devote myself exclusively to abdominal surgery I have still removed quite a few healthy appendices, and even the presence of the colon-bacillus within the appendix did not console me in the least. This bacillus may become a pus producing bacterium when it reaches a point where it is normally not to be found. But being the usual inhabitant of the healthy colon the bacillus coli has a perfect right to have its residence in the healthy appendix. No cavil could remove the impression in my mind that I have uselessly subjected my patients to the dangers of a laparotomy and a mutilating operation owing to the impossibility of an exact diagnosis.

And I am not alone in this respect. I have seen Prof. Richelot, in Hôpital St. Louis in Paris, open the abdomen for appendicitis to find a healthy appendix. I assisted Schmidt in the Red Cross Hospital in Munich when he removed a healthy appendix, and I was present when the late Mundé, in Mount Sinai Hospital, opened the abdomen for appendicitis and found a normal appendix. These are and were men with great diagnostic skill; they had the courage to admit that they often find conditions within the abdomen they did not expect before the operation, and the claim of the surgical pigmies that they are always able to make a correct diagnosis would appear very funny if it were not so serious.

The truth is, and we must confess it, even if it hurts our pride, that we surgeons are not always able to make the differential diagnosis between a common bellyache and suppurative appendicitis, between gravel in the right ureter and appendicitis, gallstones and appendicitis, ovarian neuralgia and appendicitis, colitis and appendicitis, etc. We have, therefore, no right to assume the airs of superiority and scold the general practitioner for not calling us in consultation in every case of bellyache, and lecturing our fellow surgeons for having different opinions than ours in regard to the best time for the operation. An early operation may save the life of a patient who would have died through our waiting for the diagnosis to become clear, but conservatism will subject fewer patients to the unnecessary dangers of a laparotomy and all its sequels. In the long run, therefore, the conservative surgeon will have the same amount of success as the radical, nay, he may even make a better showing, as it was proved by a statistical study of cases of appendicitis made by Dr. Chauvel the medical inspector of the French army. In 1902 668 patients with the diagnosis appendicitis were received in the military hospitals of France. Out of this number 188 were treated according to the surgical rite, while 480 received purely medical treatment. Of the number operated upon 23 died, while out of the 480 not operated upon there were but three deaths.

Hence what we need are not a few more lectures when to operate and how to operate—we had enough of them ad nauseam—and it makes after all very little difference whether the abdominal cut is a little larger or smaller or whether we have this suture or that suture. Let us rather have good instruction to increase our diagnostic skill. As long as through the limitations of our science the best of us may confound appendicitis with a simple bellyache, we ought to devote our energies to remove these limitations by the discovery of reliable pathognomonic characteristics of suppurative appendicitis. When such signs have become the common property of the medical profession then, and not until then, will the general practitioner send every appropriate case to the surgeon and the surgeons themselves will have only one opinion when and how to operate.

62 W. 126th St.

PROF. J. LAURENCE LAUGHLIN, of the University of Chicago: "The man who is fit succeeds and the man who is unfit fails, and when men who fail wish society to do for them what they confess to being incompetent to do for themselves, we have the explanation of the demand for socialism, for socialism is the philosophy of failure."

THE CLIMATE OF FORT APACHE, NAVAJO COUNTY, ARIZONA.

BY ISAAC W. BREWER, M.D.

Fort Huachuca, Arizona.

THE Black or Mogollon Mesa is the dividing ridge between the waters of the Gila and the Little Colorado rivers. Beginning in northwestern Arizona, it extends in a southeasterly direction to the headwaters of the Gila in southwestern New Mexico. In elevation it varies from five to seven thousand feet above the sea. From the north the approach from the Painted Desert is gradual, while the southern slope is more rugged and is cut into many beautiful cañons and in places terminates in abrupt cliffs.

This region receives an annual precipitation of twenty or more inches and is covered with a fine growth of timber, mostly pines, but in places there are large areas of cedars.

Coronado on his way to Cebola in 1540 passed through this region and called it a wilderness.

The Federal Government has set apart something like three million, five hundred thousand acres of this land for the Apache Indians, and more than ten million acres have been reserved for forestry purposes. It is one of the best game regions in the southwest, and deer and wild turkeys, which are fairly numerous, may be hunted between September 15 and December 15. Ducks and geese are plentiful in the spring and fall. Trout abound in some of the streams, the open season being from June 1 to September 1. Bears and wild cats may be killed at any time.

This is a most delightful region for a summer camp. One may roam at will through the forest reserve, the only restrictions being that no fires be left burning and that the trees be not damaged. The local game laws must be observed.

Here and there on the streams are a few small Mormon villages, and in the remote recesses of the mountains an occasional prospector may be encountered holding down a claim that may or may not be of value. They are the rearguard of the "wilderness breakers." Brave, hopeful, and having the perseverance that made it possible for the American people to conquer the "wilderness" and spread to the Pacific, they are well worth knowing.

Coronado found the country occupied by the Apaches, who live in tepes along the river bottoms in summer and on the ridges in winter.

Prior to the arrival of the Apaches the region was the home of a considerable people closely related in manners and customs to the Pueblo and Moqui Indians. On every mesa there are remains of their ancient communal dwellings, and in the river bottoms are many similar ruins and remains of irrigation ditches. In the annual report of the National Museum for 1901 Walter Hough has given an interesting description of some excavations of ruins in the vicinity of Fort Apache.

From the Black Mesa arise numerous detached ranges of mountains that have the same general direction as the mesa. The most eastern of these within the Arizona boundary are the White Mountains (the Sierra Blanca of the Spaniards). This range is largely included within the Apache Indian reservation.

In about the centre of the reservation, in a narow valley on the Gila slope of the mountains, at the junction of the north and east forks of the White River, is a small military station, Fort Apache. This valley is surrounded on all sides by mountains, excepting to the westward, where the river has broken through a low range. Looking eastward the eye rests on two beautiful peaks, mounts Thomas and Ord, which for a considerable portion of the year are covered with snow. The mountains in the immediate vicinity of the post are flat topped and capped with lava of comparatively recent origin. The sides are very precipitous and show well the different geological strata of which they are composed.

In the following table is shown the available climatological data for Fort Apache. Observations were begun by the Medical Department of the Army in 1871 and have continued to date. During a portion of the time the Signal Service conducted a station at this point and for that period the data is very full. The post has an elevation of 5,800 feet above the sea.

The highest temperature, 104 degrees, is about the same as at other stations in southern and central Arizona that are above the five thousand foot level. The mean maximum in June is 89 degrees and in July it is 91 degrees. From 1897-1903 the maximum temperature was above 100 degrees on 21 days. The mean of the afternoon temperature is 45 degrees in January and is above 50 degrees during the other winter months. The 7 A.M. temperature in summer averages 60 degrees or below, and the mean 11 P.M. temperature is 87 in June and is below 75 during the rest of the year. The nights are always cool, minimum temperatures below freezing point have been recorded during every month excepting July and August. The winter nights are very cold and temperatures below zero occur frequently. The lowest temperature on record is fifteen degrees below zero in December, and readings but slightly higher have been recorded during the other winter months. The daily range of temperature is large, especially during the summer months.

The average precipitation for the year amounts to 19.0 inches, 38 per cent. of this is in the shape of showers, which occur during the months of June, July and August. The spring rains amount to but 16 per cent. of the total for the year. The Arizona type of precipitation, two well marked wet seasons, is not so clearly defined as at other points in the territory. The summer rains continue through the fall and merge into the winter wet season. From September to March the precipitation averages more than an inch a month. The greatest daily rainfall recorded was 3.00 inches in August. Daily precipitation in excess of 2.00 inches is liable to occur during the summer and fall months.

There are on an average 81 rainy days per year. The greatest number occurs in August and the least in May. The longest period without rain was 78 days during October, November and December, 1891. The greatest number of consecutive rainy days was 15, in July, 1880.

During the year ending June 30, 1888, the Signal Service conducted a series of observations to determine the amount of evaporation, Fort Apache being one of the reporting stations. From these observations we learn that the annual evaporation during the period amounted to 65.5 inches, which was less than at most stations in the arid region. In fact, the region of the Black Mesa can hardly be called arid.

The average relative humidity for the year is 55 per cent. The average for June is 38 per cent.; in May it is 41 per cent., and in April 48 per cent. During the other months it averages 63 per cent. This is much damper than at other stations in the arid region.

The average cloudiness for the year is 30 per cent. In the months of April, May, June, September and October the amount of the sky obscured by clouds averages from 20 to 27 per cent.; in the winter it is from 30 to 34 per cent., while in July it is 48 per cent., and in August 50 per cent. There are on an average 206 clear, 115 partly cloudy, and 44 cloudy days during the year.

Snow falls as early as November and frequently lasts as late as May. The average for the year is 17 inches and the number of days with snow averages 16. In the mountains the fall is much heavier, and it is frequently encountered to the depth of several feet on the level and not infrequently the roads become impassable from the snow drifts. In 1905 the snowfall at Fort Apache reached the amount of 42 inches, while during the year 1900 there was but a trace recorded.

From November to March inclusive northeast winds prevail, while from May to October the winds are from the east. The wind velocity averages about 6 miles per hour, but during the dry season, April and May, it is nearly 9 miles per hour. The wind movement is least just before sunrise, increasing to 12 miles per hour during the heat of the day.

From the above it will be seen that the climate of Fort Apache is in many respects similar to that of Prescott. Together they may be taken as representative of the forest climate of Arizona. This region is destined to become one of the great recreation grounds of the country. It is an ideal summer residence for those who have wintered in southern Arizona. Here those who have become debilitated by the strain of modern business will come to commune with nature and amid the stillness of the mountains and the cañons will regain their health and strength.

Summary of climatological observations at Fort Apache, Navajo County, Arizona. Elevation 5,800 feet.

	TEMPERATURE.						Mean Relative Humidity per cent.	Average precipitation, inches.	No. days, with precipitation.	No. clear days.	No. partly cloudy days.	No. cloudy days.	Average cloudiness (o clear, 10 overcast.)	Average velocity of wind, miles per hour.
	Mean.	Maximum.	Mean of maximum.	Minimum.	Mean of minimum.	Mean daily range.								
January	35	75	50	-12	20	29	63	1.3	6	16	10	5	3.2	5
February	39	80	55	-15	25	30	61	1.7	7	14	9	5	3.4	6
March	45	86	62	4	30	32	57	1.6	7	17	9	5	3.0	7
April	52	92	71	10	34	26	48	0.8	5	17	10	3	2.4	8
May	60	97	80	23	49	40	41	0.6	3	22	8	1	2.2	8
June	61	104	89	29	48	42	38	0.6	4	22	6	2	2.0	8
July	74	102	91	40	58	32	54	3.3	14	10	14	7	4.8	6
August	71	100	87	40	57	23	66	3.6	15	9	16	6	5.0	6
September	65	96	83	26	49	33	59	1.7	6	18	9	3	2.7	6
October	55	88	73	20	38	35	55	1.2	4	22	7	2	2.0	6
November	46	80	61	12	26	35	56	1.2	4	20	7	3	2.4	5
December	38	80	54	-14	25	31	64	1.7	6	18	8	5	3.0	5

SOME PRACTICAL THINGS WHICH PERTAIN TO HEREDITY.

By Joseph N. Study, M.D.,

Cambridge City, Ind.

The relationship of heredity to disease and other abnormal conditions is a matter that has presented itself to the minds of physicians ever since anything pertaining to medicine has been known. The object of this paper is to direct attention to some of the more common things bearing upon this subject, which occur in the everyday work of the general practitioner of medicine. In medicine it is true that we, as physicians, have been known to follow along certain well-defined lines until we learn something we believe to be absolutely true, when we are compelled to abandon in part, or the whole, what we have learned, for something apparently more logical.

In a measure is this our position at this time upon the subject of heredity. As applied to the practice of medicine, heredity means something or conditions that are transmitted either by parents or ancestors to the offspring. Such conditions may reappear in succeeding generations, or one generation may be omitted to reappear in a future one. Until the discovery of the tubercle bacillus it was universally believed that tuberculosis was transmitted as such from the parent to the child. Since the advent of this bacillus there is a unanimous opinion that tuberculosis in this sense is never of heredity origin. However, the general consensus of medical opinion is that conditions hereditary in their nature are transmitted to the offspring, whereby such an individual is more susceptible to the invasion of the tubercle bacillus than is one of a better heredity.

We are yet in ignorance as to the cause of cancer, and it would seem as though the pendulum of medical science has again swung to the opposite extreme. Perhaps a very large majority of all physicians are doubting the transmission of cancer. Certainly much less importance is placed upon this matter than was some few years ago. While environment and various other conditions seem to have much to do with cancer, it would seem as though further proof was needed to contradict the belief that some conditions were not transmitted hereditary in their nature, by which offsprings of cancerous parents were more liable to this disease than others of a better heredity. This condition being, perhaps, one in which the various tissues and cells of the body are a more fertile field for cancer formations.

A great deal has been said about hereditary syphilis. It has been generally conceded that syphilis is hereditary and is transmitted from parent to offspring. Since the discovery of the bacillus palida, which is now believed to be the cause of syphilis, some observers are denying its possible transmission. Two distinguished physicians of Europe have recently given opposite opinions upon this matter. It would seem as though it was yet to be proven that syphilis was not directly inherited.

In the very complex affection known as rheumatism, certainly is there sufficient evidence to warrant the belief that conditions may be transmitted to the offspring, rendering such an individual more than usually susceptible to this condition, under similar environment with others of a better heredity.

There is a growing belief that arteriosclerosis, including chronic nephritis, may at times be traced to hereditary influence. Instances are very frequently recorded where several members of a family have succumbed to such conditions at such an early period in life as to make it seem probable. Asthma is a disease so frequently handed down through succeeding generations, as to characterize the affection as one frequently of hereditary origin; forty per cent. of all cases have a distinct heredity. There are various skin affections which reappear sufficiently often in families to make it appear that conditions of a hereditary nature may be the underlying cause.

The history of epilepsy shows that conditions of a hereditary nature lie behind thirty per cent. of those affected. In migraine do we also frequently have well defined hereditary tendencies. There is no one disease having a better proven history of heredity than insanity. From sixty to seventy per cent. of all insane, where a complete history is given, have a history of heredity. One family alone has been known to have had continuously one or more insane for a half century. Statistics relating to suicide indicate that this condition of mind is often transmitted from the parent. Instances are of frequent occurrence where several succeeding generations have had one or more suicides.

In the various functional nervous affections is the stamp of heredity so often apparent. In the affection known as Huntington's Chorea, this disease has been transmitted through several succeeding generations. Hysteria hypochondria and neurasthenia can often be traced to ancestors similarly affected. It is not at all improbable but what alcoholism can frequently be traced to hereditary conditions, in which a weakened will power is transmitted to the offspring, who is unable to withstand normal physiological stress, under surroundings and environment, as well as one born with a better heredity. In the disease hemophilia, commonly known as bleeders, the affection has so frequently reappeared in families as to characterize the disease as one having a decided hereditary history. It is a matter of fact that the large number of individuals who fill our state institutions to overflowing for feeble minded, incorrigible, criminal and insane, have very frequently a well defined hereditary history.

The matter of habit, which environment often has much to do with, very frequently presents the characteristic family stamp of heredity, and this fact must certainly have frequently presented itself to most all physicians. Traits of character, good or bad, do undoubtedly, frequently speak loudly for heredity. The various bodily deformities transmitted to the offspring are matters of common observation. The power of resisting disease as presented by the different nationalities can only be explained through the influence of heredity. The resisting of disease by different individuals are facts of common observation. Why one individual will resist either an acute or chronic affection for a long time, presenting great powers of recuperation and endurance, when another similarly affected will succumb early in such an affection, can only be explained through the transmission of a better heredity. These are conditions that should influence the physician in making his prognosis.

The matter of longevity so frequently presents a hereditary influence that it is a common fact, well known to the laity.

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THE

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OLD AND NEW METHODS OF TREATMENT.

WE are just beginning to realize why various methods employed until recently were in a measure successful in the treatment of particular pathological conditions. For instance, in the effort to keep an infected part or area suffused with the serum of the blood, and by every known means to improve the component parts of the blood which gives life and resistance to the destructive elements or, more particularly, microorganisms which invade the parts, the physician sought in former times, as now, the aid of constructive agents such as a proper and plentiful diet, pure air and sunlight. Methods were utilized to determine the blood to the affected parts as they are now and for the same purposes, but not with the same success. Passive congestion, the violet rays, active hyperemia, etc., as now applied in tuberculosis, lupus and other like local conditions, to effect a bathing of the parts or areas with a healthy blood serum, thus favoring the destruction of bacteria when the pathologic condition is due to an invasion by these mischief makers, or the elimination of toxic agents through the circulating or excretory organs is resorted to now, as were poultices, leaching, cupping, blistering, seatons, cauterization, etc., in former times. It is not likely that it was known in every instance why a poultice assisted in an improved condition when applied to these lesions, or in fact often hastened their cure; why passive congestion worked for good in acute inflammation; why these various methods of treatment, together with an induced active hyperemia, by directing the blood more or less rich in antibodies, should bring an improvement. A clear understanding of pathological conditions enlighten us as to the exact state of affairs, while improved clinical methods assist in hastening a cure or at least in affording a large measure of relief.

THE PROCESSES OF DIGESTION IN BRIEF.

(Lest We Forget.)

THE first of the many processes necessary to digestion is, of course, mastication and insalivation. This accomplishes the disintegration of morsels of food and thoroughly mixes it with saliva, which is necessary, particularly with food rich in starch, which, when cooked, is thus converted into maltose. The saliva is slightly alkaline and contains the ferment ptyalin, which is the active agent in converting the starch into maltose. This action is interfered with when there is free acid present or when diluted by water or other fluids.

The stomach which contains from two to three pints is richly supplied with blood vessels and lymphatics. The veins empty into the portal system, going thence to the liver and do not communicate direct with the circulation. It secretes large quantities of gastric juice which contains hydrochloric acid and the ferments pepsin and rennet. The acid is largely secreted from the cardiac portion where the food first enters, the ferments near the pyloric end of the stomach. The food which is, when it reaches the stomach, alkaline, encounters the acid but is not at once neutralized, as the acid first combines with the albumin of the food. After varying periods in different individuals, the hydrochloric acid is in excess of what will combine with albumin and the digestion of the *starchy* food begins. The albumin has been converted into peptone. The cellulose of vegetables and fruits is broken up and absorption of a portion of the stomach content now begins, favored by the muscular action of the stomach itself, an action described as a wave like motion, both openings being for the time closed. This causes a mixing of the contents and assists in its solution. Portions as they are digested are passed into the small intestines, but solid particles stimulate contraction at the pyloris which prevents their escape. In from four to seven hours gastric digestion is complete and the stomach empty of food particles. But few substances are absorbed from the stomach, alcohol, salt and water being the principal ones. Water if taken alone before a meal will pass out of the stomach in fifteen minutes, whereas if taken with the food escapes only with the food. It will be seen that the office of the stomach, like that of the mouth, is to prepare food for digestion in the intestines.

The small intestine is arbitrarily divided into three parts: that next the stomach, the duodenum, from eight to ten inches long, the jejunum, which forms two-fifths of the remainder, and finally the ileum, the remainder or three-fifths. It is copiously supplied with nerves, arteries and veins. There are also glands, valvular folds and ducts, all of which play an important part in the processes of intestinal digestion.

The liver secretes bile which is stored in the gall bladder to be discharged into the duodenum near the excretory duct of the pancreas. The pancreatic juice as well as the bile are most important to digestion. The pancreatic juice contains a ferment which converts the starch remaining in the food after its escape from the stomach into maltose; another which digests albumen, and a third which emulsifies fats. All of these, the bile, pancreatic juice and the secretions of the glands of the intestines, are alkaline.

The food of the stomach contents known as chyme, which is strongly acid, is rendered alkaline by the bile, pancreatic juice and the intestinal secretions. The remaining albumin is changed to peptone, the starches to maltose, cane sugar to glucose, the fats emulsified. Absorption begins in the duodenum through the activity of the veins and lacteals and is continued by selection of available portions, while useless parts are passed along into the large intestine, the colon. As has been said the veins discharge themselves into the portal veins, thence into the liver. The lymphatics convey the fat into the thoracic duct, thence into the vena cava. The blood from the stomach and intestines carries the nutritive parts of the food to the liver, where it is modified and rendered ready for its discharge into the systemic veins of the body.

The large intestine is divided into three portions: besides the short pouch, the cecum; the ascending, transverse and descending colon, its office is to retain the waste material until it is finally discharged from the bowels.

WINE AS AN INTESTINAL ANTISEPTIC.

THE medical as well as the lay press has for months teemed with references to the use of alcoholic beverages, partizans commending or condemning from their point of view. It has not seemed to us that the discussion has been free from prejudice, or with the one thought and desire to arrive at the exact truth. Until the subject can be calmly, impartially and scientifically discussed, pro and con, no decision can or will be arrived at which will be of the least value to humanity or to science.

It is not our intention to publicly take part in this unprofitable discussion, but to refer to a report by Sabraze's and Marcandier, Paris, in the *Cosmos* for May, 1907, wherein these men, prominent physicians, bacteriologists and scientists, in a medical sense, call attention to a number of experiments which revealed the fact that wine is an excellent antiseptic, both when used to destroy germs in water that is to be used as a drink and when partaken of between meals or at the time of eating. These men declare that wine is an efficient antiseptic against bacterial impurities of drinking water containing the germ of typhoid. Two drops of pure white wine added to ten c.cm. of bouillon containing Eberth bacillus (typhoid) three days old sterilized the germs in less than fifteen minutes, while Burgundy wine killed the bacillus in less than thirty minutes. In champagne the bacillus died in less than ten minutes.

White wine seems to be more active than red, doubtless because it contains a greater quantity of acid. Dilution weakens the bactericidal powers of the wine; red wine diluted with half to two-thirds of water being active only after four hours. Champagne with half strength only after an hour and a half instead of ten minutes. It was shown that when it is desired to take wine with the meals instead of diluting at the time and taking during the meal when much of its bactericidal power will be lost, equal parts should be mixed with water six hours before the meal, when all danger from the germs may be avoided, even with unboiled or unfiltered water.

It will thus be seen that to forbid wine with the meals is a detriment to health. Finally, bottled wine may be used in the absence of other antiseptics by the surgeon in the treatment of surgical cases.

WHAT SHALL WE DO WITH THE RAPIST.

We are confronted with an epidemic of crime which is almost appalling. Daily we read of heinous crimes committed against not only men and women, but helpless girl children. What is or can be done to stop it is claiming the most serious attention of our constabulary as well as philanthropists, but apparently we have not as yet discovered a remedy. The recent attacks on little girls, both in the United States and in Germany, reveal a horrible depth of depravity which cannot, must not be endured. Whether it is a study more particularly for the sociologist, criminologist, or the mental pathologist it is impossible to answer, and whether suggestion has much to do with it or not is hard to determine, but we believe it has, for it has been frequently noticed and commented upon that one crime out of the ordinary influences others to emulate or commit the same, and herein is the suggestion. The defective and weak are easily influenced, and an unusual crime being heralded throughout the world these persons, of whom there are many, become in a manner imitators of the vicious, even in numerous instances boasting of their ability to do as well or better what has been done by others. Season it is thought may have something to do with it, more crimes being committed in summer than in winter. Punishment for these crimes has not had the effect of putting a stop to them. Then what are we to do? Surely this is no time for mawkish sentiment or undeserved sympathy with or for these criminals! Officers of the law must mete out punishment of a character which will strike home to the demon who would commit an unmentionable crime upon girls of five and six years of age. If our laws are not sufficiently stringent let them be enacted *and executed*. These fiends incarnate should be rendered harmless by castration, or rape made a crime punishable with death. Sequestration will not deter these brutes. Something that will forever make them and their progeny harmless should be the penalty.

AGAIN THE UNFORTUNATE.

We were brought face to face with the great problem of existence but recently. A man, laborer, committed suicide under our windows, just across the narrow space called yard from our office, by swallowing carbolic acid. For three days we have witnessed the necessary procedure or routine which the law exacts in all great cities where there is sudden death from suicide or otherwise. The autopsy, preparation for burial, etc. There the casket rests in plain view on this the last day that the face may be seen by family or friends. To-morrow a new chapter begins for those left behind, for the struggle must continue. We are told that the man was out of work, could not find employment. Thus again the despairing cry for relief; thus another soul is suddenly thrust into eternity "nor shriving time allowed"—thus the great mystery, the unknown, must be explored. To die by such means in the strength of manhood, in this great city, and for such a reason, in this the century and year where so much has been given for charity, so much more than ever before, where there are thousands of hands ready and anxious to help, seems the very irony of fate. And saddest of all, this is but one of the many such cases that come to light. It would seem that the times are really out of joint; that such things should be in our midst. We read daily of suicides; they have occurred since history began and before, and must needs it seems continue to the end of time.

We knew nothing of this man, what his aspirations, ambitions, habits or connections, but we believe that except in cases of mania the suffering must be great to cause a man to so summarily defy fate and face the great unknown. The agony of mind, severance of ties that all humanity prize so highly, must appal the strongest heart. For those left behind! What can comfort them under such circumstances.

A DISCREDITED CANCER CURE.

We learn that the British Cancer Research Society has issued a second report in which it is stated that tripsin is as powerless to stay the destructive progress or effect a cure of cancer as all the numerous other sure cancer cures which have appeared during the last hundred years or more. It has been faithfully tested by eminent surgeons throughout the world, men who would rejoice to know that a remedy existed which would stay this dread disease, but experience with this much exploited product, tripsin, leaves medical science just where it was before Saleeby published his too enthusiastic papers. We must, therefore, have recourse to the knife as recommended by all expert surgeons. Whatever harm has been done by the premature and unwarranted claims made by Saleeby can never be known, for to advocate broadcast through the lay press false hopes in the minds of those unfortunates who are affected with cancer is incalculable, besides permanent relief might have been found in an operation which is lost through the delay in experiment with a remedy whose virtues are unknown or not scientifically demonstrated.

Keen, of Philadelphia, as well as other men of equal prominence, declare that there is no permanent relief obtained from cancerous growths known excepting radical surgical procedures, and it is pertinent at this time to remind the medical profession that these operations should be undertaken as soon as a diagnosis is established or, if possible, before the breaking down of tissue. Even warts, moles and similar growths should be removed, for it cannot be said that they may not at some time assume a malignant aspect.

LIQUID FOODS.

According to a report on liquid foods made by the Council on Pharmacy and Chemistry to the *American Medical Association Journal*, May 11, 1907, a number of "medicinal" food products contain a very high percentage of alcohol, ranging from 17.5 to 23 per cent, with a very small amount of nutrition content. It is further stated that these preparations have barely the food value of milk; less than milk if the food value of alcohol is omitted. And further, that if the food value of these products is calculated in calories the alcohol content in any of them would be sufficient to keep the patient in a constant stupor if it were relied on exclusively, while the cost would vary from $1.56 to $3.39 per day. A comparative statement of cost is made with milk which can be easily verified.

It is not always advisable to give to invalids alcohol. When it is, it would seem that it might best be given with milk in the form of eggnog or milk punch.

Surely we advance in knowledge from day to day, especially in what most concerns the physician and patient.

It is to be hoped that through the process of elimination we will arrive in time where the medical attendant and the nurse will be able to make choice of only meritorious agents when treating disease or during convalescence.

BAD ADVICE FOR THOSE VISITING THE SEA SHORE.

A COMMUNICATION was recently sent the *New York Times* advising visitors to the sea shore to indulge in what he terms "The Great Sand Cure." His recommendations are so perfectly at variance with common sense, so extraordinary in fact that, while it is our rule to ignore advice given in the lay press upon subjects pertaining to medicine or treatment, we feel called upon to warn against such a practice or procedure, as there may be someone who will be foolish enough to follow his advice.

He recommends the filling the hair and rubbing the scalp with sand, washing out and repeating several times to remove the dandruff; sand applied to the face and skin, in the mouth to improve the speech, the teeth and gums in order to clean the former and harden the latter; in the nostrils to harden the skin (?) and mucous membrane and make one less susceptible to colds in the head, besides being conducive to cleanliness; the feet to remove the callous skin, between the toes, to harden the skin, thus making the feet less liable to perspiration. In fact, you are advised to rub sand all over the body to quicken the nerves and stimulate the circulation of the blood. Evidently the writer forgot to advise rubbing some into the eyes and ears.

Why leading papers such as the *Times* will publish communications of this character is surprising. No good and much harm is apt to follow such advice.

A PLEA FOR OATMEAL.

CHALMERS WATSON, in *The Hospital* for May 11, writes that he "has investigated oatmeal and arrived at the conclusion that it is a neglected article of food which should receive the attention of the medical profession. He believes that a large measure of the food value of this staple is due to its capacity to stimulate the activity of the thyroid gland. Experiments on young rats were made, uncooked oatmeal and water being fed for eight weeks. Autopsy revealed in each case an enlargement of the thyroid gland, together with evidence of increased glandular activity. Control rats which had been fed on bread and milk failed to show any such changes. Watson therefore urges that oatmeal porridge with milk should be fed to young children especially, and that bread and butter should follow such a dish in order to encourage the development of the muscles of mastication. Meat should not be allowed, as it induces a distaste for the oatmeal."

It will be found that some children as well as adults cannot comfortably digest oatmeal and, of course, where such is ascertained to be a fact it should be discontinued. Food value and digestibility are often at variance with one another, and this fact should be clearly investigated by the physician, as well as mothers and nurses, especially in young children.

HYDROTHERAPY. -

A Series of Papers by the Editor.

Hydrotherapy is the application of water in varied forms to the surface of the body. It is no exaggeration to state that benefit may arise from this use of water in almost every ailment.

Hydrotherapy as a therapeutic agent is perhaps almost as old as the world itself. Hippocrates held water in high favor and the invention of the shower bath is commonly ascribed to Asclepiades of Prusa, in Bithynia, B.C 128-56, though Pliny says that we are indebted to Sergius Orata for the primitive form of this device. Nearly all the ancient medical writers, including Celsus, Aretaeus Agathinus, Aetius, Galen, Herodotus, Rhazes and Avicenna, speak in high terms of the use of water in medicine.

In Italy and France hydrotherapy made a start in the fifteenth and early sixteenth centuries, and such treatment was even applied in mental diseases.

Floyer and F. Smith in the seventeenth century wrote on hydrotherapeutics in England, and in the early eighteenth century F. Hoffmann wrote on the subject in Germany, About the middle of the eighteenth century F. G. and J. S. Hahn treated febrile diseases with cold water, and one of them when attacked by typhoid fever had himself treated by this method, modifications of which have been so widely adopted in modern times. In the latter part of the eighteenth century, in spite of good results both in Germany and England, the treatment was again falling into disuse when, soon after 1820, Vincent Priessnitz, originally a small farmer of Graefenberg in Silesia, began to treat every kind of ailment, chronic as well as acute, by hydrotherapy. In America hydrotherapy was first introduced in 1843 by Dr. Russell Thatcher Trall, of Vernon, Connecticut, and Dr. Joel Shew, of Providence. Winternitz placed hydrotherapy upon a sound and scientific basis, and he may be termed the high priest of the method in Europe, just as Simon Baruch is in this country. Kellogg, Brand and Ziemssen have also done much towards advancing the knowledge of hydrotherapy.

The great John Wesley was a firm believer in the merits of the external application of water, even going so far as to declare that cleanliness was next to godliness.

The foundation of hydrotherapy rests on the benefit that is manifect in those who indulge in the simple daily bath for hygienic purposes. In the case of children this takes the form of a daily immersion in water of 80-90° F., but with the approach of adolescence the hardening of the system is better attained by the brief use of cold water, 60° F. The cold water evokes a reaction of the skin, which determines the blood to the interior, accelerates the heart action and deepens the respiration. Thus the excrementary products CO_2 and urea are eliminated in greater quantity.

After the use of the daily cold bath for a brief moment there is a greater muscular activity, and with the aid of the microscope the number of blood cells will be found increased. Such is the tonic and prophylactic use of water in health, and for these very reasons more so than for its possible heat abstracting properties it is used—unfortunately but too little in disease— and when applied it is done in a very unscientific fashion.

Ablution in disease is to be performed by dashing the water on the surface of the body with a linen rag. The whole surface of the body is to be gone over, bringing into play friction with the wash rag. The water is to be at a temperature of 60° F.

Indication. As a preliminary to other methods of water application in order to learn the reaction of the patient and in the milder types of fever as an antipyretic and sedative measure.

Sheet Bath. The patient, while standing in a tub of water at 95° F., has wrapped about him a sheet wrung out of water at 60-70° F. As the sheet becomes warmed by the body cold water 60-70° F. is poured on. When the bath is given in bed the sheet must be everywhere in contact with the body and the cooling water applied with a sponge. Indications for this form of bath are in high febrile conditions, such as scarlatina, and in feeble individuals with chronic affections who cannot be indulged in other forms of bathing.

The Drip Sheet Bath (70° F.) is a modification of the foregoing. As the term implies, a dripping wet sheet is thrown loosely about the patient from behind. The attendant executes stroking movements upon the sheet so as to draw the blood to the surface and when the parts of the body feel warm cold water, 40-70°, is thrown on from a basin or cup. Daily the temperature of the wet sheet may be reduced until 50° is reached.

Indications. This form of bath constitutes a powerful form of stimulus in anemia, chlorosis and tuberculosis.

Wet Pack is executed by enveloping the patient in a damp linen sheet so that all opposing surfaces are in contact. This is allowed to remain one-half to one hour, and each day the temperature is lowered until 50° F. can be tolerated. During its application the windows may be open.

Indication. The effect of the pack at first is stimulating and with the reaction a profuse perspiration sets in. This exerts a soothing influence on the patient, hence the value of a wet pack in hysterical hyperesthesia and neurasthenia. By successively changing the pack every five minutes we can get a marked antipyretic effect. The final act of a wet pack should consist in an ablution, if the patient be feeble, or a half-bath.

Partial Packs. A wet linen cloth wrung out of cold water is applied to a local area and covered with flannel to prevent hasty evaporation. When the cloth is dry it should be renewed, preceded by a cold ablution. Abdominal compresses constitute a variety of local pack.

Indications for the use of local packs are chronic articular rheumatism, anemia, hemoptysis, catarrhal intestinal affections.

Hot Wet Pack requires the *substitution* of water at 110° F. for the cold water. At the end of one hour's application the pack is removed and followed by an ablution with water at 65°. This has been found of value in obstinate insomnia.

Hot Blanket Pack. Blankets are steeped in water at 110° and when thoroughly wrung out are wrapped about the subject. The great dilatation of the surface vessels that ensues lowers blood tension and causes free perspiration. Hence the indication for this procedure in uremia and eclampsia.

Local Hot Packs are to be renewed each half hour. They are of value in rheumatic and neuralgic affections.

Half Bath is prepared by filling the tub with six inches of water. The patient seated in the tub has the water dashed upon him and occasionally dips in it. All the while friction of the body is maintained. The temperature of the water is to be 60 to 75° F. and duration of bath 15 to 20 minutes. This bath at low temperature possesses the advantage of being antipyretic without the danger of chilling. It is very stimulating. It is useful in relieving all congested conditions, *e.g.*, heart in pneumonia and scarlet fever; it is also of service in coma and delirium accompanying low fevers. For the pains of ataxia it is most beneficial.

Full Bath enjoys perhaps of hydriatic therapeutic measures the widest application. It is otherwise closely identified with the name of Brand. Its sovereign realm is in typhoid fever. The tub full of water 60° F. to 75° is placed alongside the bed. The patient spared every excitement is lifted into the tub. A glass of whiskey is previously administered to combat the shock. Once in the tub friction of the entire surface is maintained throughout, while cold water is passed over the chest. Only if the pulse shows signs of acceleration is removal indicated. At the expiration of 15 minutes the patient is replaced in bed by careful lifting and allowed to dry if temperature is below 103° F. by covering with sheets; if above 103 he is dried in five minutes. To combat shock hot bottles may have to be used. The Brand bath is indicated the moment the temperature reaches 103° F. and is to be repeated every three hours until the temperature is below 103.

Baruch when he suspects that he is dealing with a case of typhoid fever proceeds at once to use ablutions every two or three hours, applies an abdominal compress between the ablutions, and then orders a sheet bath of from 80° F. to 70° F. On the fourth day he orders a friction bath at 90° for fifteen minutes, to be succeeded in four hours by others at 85°, 80°, 75° and 70° F. When the diagnosis becomes positive the baths must be administered in a six foot tub placed alongside of the bed, 18 inches from the floor. The temperature of the bath should never be less than 65° F., but cold enough to produce good reaction—70° to 75° being the average.

Many modifications of the Brand cold bath have been suggested and employed by various writers, as the graduated bath of Ziemssen, the tepid bath of Riess, but on the whole the Brand method has proved itself by the experience of the majority of medical practitioners who have employed the treatment as the most effective. All the advocates of the cold bath treatment of typhoid fever lay much stress upon the mechanical stimulation of the skin during the bath. Jacobi, writing on cold baths in the treatment of typhoid fever, is not entirely in favor of the Brand method. He states that since the introduction of the Brand treatment in the Mount Sinai Hospital that, although there has been a reduction in the typhoid fever mortality of a little over 2 per cent., there has been an increase in the number of cases of pneumonia and phlebitis and a decrease of those of furunculosis and nephritis. Relapses have increased 2.5 per cent.

The death rate in the relapse cases before and since the introduction of the Brand treatment is practically the same. It has not reduced the number of complicated cases as a whole, but has decreased the number of deaths from toxemia in the causation of the mortality of typhoid fever.

Jacobi is of the opinion that the dangers of cold bathing are not encountered in warm bathing, while a bath of 95° or 90° F., even when of short duration, will reduce a temperature of 104° or 106. He therefore holds that warm bathing should be the principal treatment of all typhoid fevers.

Graduated Half Bath is a half bath in which the patient is placed in the water made to cool rapidly by the addition of cold water. Friction is kept up constantly.

Indications. In the hyperpyrexia of pneumonia begin with temperature of 80-90° F., and in scarlatina initial temperature should be 50-60° F.

Warm Bath comprises a temperature of between 90-106° F. Its principal use is in calming and soothing the patient.

A use to which the permanent warm bath in which patients are kept is put is that of extensive burns. They are kept therein for days, the water being changed continuously. For large bed sores and sloughing carcinomas of the bowel and pemphigus it is of great value.

Douche is the application of water from a height and under pressure. A pressure of three atmospheres or a fall equivalent to 3 to 5 feet is the ordinary douche. If the water issues from a pipe it is styled a *jet douche* and if attached to a hose it is called a *mobile douche.* By partially obstructing the nozzle the douche becomes fanshaped and the rain bath ensues, which is a combination of douches.

Douches should be always of brief duration, 3 to 10 minutes, and they are called for in debilitated conditions requiring powerful stimulus, *e.g.*, paresthesia and hysteria. Chronic inflammatory conditions of joints are benefited by Scotch douche, *i.e.*, the alternation of a hot and cold stream. The douche combines the advantages of temperature and mechanical pressure and is the most plastic of the hydriatic measures.

Baruch is an advocate of hydrotherapy

in the treatment of phthisis. He has adopted the following methods at the Montefiore Home and Hospital for Consumptives: After a thorough cleansing with soap and water a day is allowed to elapse. The patient is wrapped snugly in a thin blanket like a mummy (unless rectal temperature is above 100°). He is allowed to lie for half an hour or longer unless he perspires. In afebrile cases it may be necessary to cover with additional blankets, the object being to fill the cutaneous arterioles preparatory to being treated with water. The face is bathed with water at 50° F. After drying, the patient is turned on the abdomen and the back is similarly treated. The extremities are not treated. Patient is gently dried, dressed and, if afebrile, ordered into the open air for a gentle walk. Febrile cases are returned to bed. This treatment is repeated daily, with reduction of two degrees of water temperature at each ablution until 60° F. are reached. Now the ablution is performed just as the patient emerges warm from bed, as follows: Standing in a foot-tub, containing sufficient water at 100° F. to cover the feet to the malleoli, he receives a rapid friction bath with water at 90°, omitting the upper extremities, after which he is dried and sent into the open air if his rectal temperature is below 100° F. The water temperature is reduced daily two or five degrees until 60° F. are reached. Now the ablution is replaced by affusion, which consists of pouring four basinfuls of water at 90° F., previously held in readiness over the body. The patient standing in a foot-tub having the feet covered with water at 100°, water is dipped from a vessel previously in readiness and poured with force over each shoulder and back and chest. Rapid drying while standing on a warm towel completes the procedure. Beginning with a warm temperature at 90°, it is daily reduced a few degrees until 60° or even 50° are reached. This process may be repeated daily. In febrile cases the water temperature should not go below 65°.

M. Bart says that he has never derived such satisfaction in treatment in febrile diseases in children, especially scarlet fever and cholera infection, as since adopting the use of the bath-tub in all severe cases. As to temperature the same results can be obtained with a bath at 90° for a child that would require one at 70° for an adult. In all ordinary cases 10 to 12 minutes duration is sufficient, in some cases 5 to 8 minutes. The soothing effect of the cold bath on the child is a strong argument in its favor. The benefits of the bath are greatly increased by the free application of cold water to the head while the child is in the tub. Hot baths are indicated not in acute febrile conditions but in the chronic stages characterized by exhaustion.

Within recent years the treatment of pneumonia by hydrotherapy has come into vogue; opinions, however, as to the efficacy of this form of treatment are by no means unanimous. A comparatively few medical practitioners hold the treatment in high favor, others find it useful employed to a limited extent, while the remainder foreswear it entirely. Baruch, in the pneumonic fevers of children, uses the gradually reduced full bath, placing the child's entire trunk into water at 96°, using continuous friction over the body; while another person adds ice water, so as not to touch the body, until the bath water is reduced to 85 or 80°—duration five to eight minutes. Such a bath should be followed by drying and friction.

Sitz Bath is taken in a sitting attitude, the water 40 to 50° F. reaching to the umbilicus. It is of great service in the treatment of intraabdominal and intrapelvic inflamed conditions. Its duration should be 5 to 10 minutes.

Warm sitz baths are effective by withdrawing blood from the cerebral circulation. For inflammatory pelvic conditions a hot sitz bath is very effective.

Odon Tuszkai recommends hydrotherapy under four different forms in treatment of acute and chronic diseases of the female pelvic contents. These are the sitz baths, irrigations, packs or compresses and continuous application of heat or cold by means of water coils. Of these the sitz bath is the most widely applicable and useful; the portion immersed should be from the middle of the thighs to the umbilicus. The effect of such a cold bath is to produce plethora of the cerebral vessels, with attendant eye symptoms, buzzing in the ears, dizziness, increased respiratory and cardiac activity, with a pulse first rapid and irregular and then slow. The causes of these symptoms is the strong vasoconstriction due to reflex stimulation of the splanchnic nerves and which produce a local drop in temperature and reduced blood current at the surface, with opposite effects at the periphery and in the interior. This is the result of a bath of short duration, which is indicated in all conditons of atony, relaxaton, etc., when there is no inflammation; if, however, it be continued for from 15 to 20 minutes, contraction of the deep vessels and hyperemia of surface takes place. Warm sitz baths produce superficial congestion and anemia of the pelvic viscera, but here the reaction sets in much sooner than with the cold applications and a state of great relaxation supervenes, which contraindicates the procedure in any conditions in which congestion or hemorrhage is to be feared.

C. M. Green strongly advises the use of hot water immersion bath in cases of threatening eclampsia. Not only does it produce profuse diaphoresis and reduce blood tension, but it acts as a marked sedative to the nervous system. The water should be as hot as can be borne, and the patient should remain therein until profuse perspiraion of the face shows that the sweat glands are in full activity. When free perspiration has been induced, the patient should be rolled in a blanket, placed in bed and covered with several blankets.

The hot vaginal douche, although largely used, is perhaps not so widely employed as was formerly the case. The temperature recommended is from 107° to 120° F. In many gynecological cases, however, the use of hot water is not recommended.

Max Runge demonstrated the fact many years ago that the prolonged use of water at 115° to 120° F. results in paralysis of the blood vessels, producing a passive congestion, which continues for a considerable length of time after the application has ceased. Therefore, hot applications should not be unduly prolonged. Ten to twelve minutes is probably sufficiently long for an application of this nature. To counteract any harmful effects of hot applications a cold bag may be applied over the heart during the treatment, and by the application of heat to the back of the neck to dilate the vertebral arteries. In those cases in which chronic anemia and relaxation and lack of tone in the tissues are prominent symptoms, water at a lower temperature may be applied. Irrigation at 80°, or even 75°, often produces good results in cases in which hot applications are not desirable.

The hot air bath may be given in a specially constructed or in an improvised cabinet, or in bed. One form of the hot air cabinet consists of a wooden box, the front and top of which are hinged, the latter having a circular opening for the neck. Within the box is an adjustable seat, beneath which are steam coil radiators that supply the heat, the temperature of which is ascertained by means of a thermometer whose bulb is within the box. The patient, enveloped in a sheet, seats himself and the cabinet is closed, the open space between the neck and the border of the circular opening being filled in by a large towel. The temperature may vary from 150° to 250° F., and the duration may be six minutes to an hour.

The mode of giving the hot air bath in bed is thus described by Solis-Cohen: The patient is stripped and placed between blankets. Two or three large hoops are securely fastened across the bed and over them are placed several blankets, which must be tucked tightly on all sides and around the patient's neck and shoulders. Over the top a piece of rubber sheeting or a spread may be placed. A lamp is placed on the stand at the foot of the bed and the hot air is conveyed by means of an elbow of tin pipe, one end of which fits over the lamp, while the other rests on the metal hoops beneath the blankets. The patient is left in the bath for from a half to three-quarters of an hour. After the bath the hoops are removed first, and the blankets then are taken out one at a time, beginning with the one next the patient. In all the procedures to induce sweating a patient is given a pint of hot or cold fluid drink. The hot air bath may be given to heat the skin in preparation for a cold application, the duration then being not more than six to twelve minutes; or it may be employed to rid the body of an excess of the normal constituents, as in obesity, rheumatism, gout, dropsical states, etc., or of abnormal poisons, as in Bright's disease, plumbism, diabetes, etc.

The steam bath is usually given in the steam cabinet. A steam-tight chest into which steam is conveyed. The effects and therapeutic uses are the same as in the hot air bath.

The sand bath consists of sea sand heated to 113° to 122° F., and a layer placed in a tub. The patient lies upon this and is covered up to his neck with hot sand and then with hot blankets, remaining so for from half an hour to an hour and a half.

The Turkish or Russian bath. The person treated is subjected to the influence of heated watery vapor. In the Roman bath the hottest chamber, the "Calidarium" or "Sudatorium," is heated by dry air to a temperature of 133° to 140° F. and the perspiration is more free than in vapor baths. These baths may be followed by soaping, rubbing, douching and a plunge in cold water. The effect of these baths is the same as that of other hot baths, but in a somewhat accentuated form. Treatment of inebriety by means of Turkish baths is very successful as an adjunct to other therapeutic measures. The heated air of the bath induces the discharge through the skin of poisons collected in the system. The skin is rendered active, the circulation is aided, and many of the elements of disease are thrown off. The Turkish bath to a large extent fulfills the office of a sewage filter to the body. The secondary action results from the profuse sweating, and lastly as a result of the alternate warm and cold douching, the vasomotor energy of the vessels is increased. The Turkish bath or some form of hot air bath is indispensable in the treatment of inebriety.

Carbon dioxid douches are given with water saturated with carbon dioxid by means of a special apparatus, thereby increasing the stimulative effect.

There are a number of artificial baths which are used by some medical practitioners, more especially in the treatment of diseases of infancy and childhood. The beneficial effects of such baths are probably due to the effects of heat or cold and friction employed with ordinary water baths.

Aromatic Bath. About six ounces each of chamomile flowers, calamus roots and peppermint leaves are tied up in a muslin bag and thrown into a warm bath. These are recommended in marasmus, infantile spinal and other forms of paralysis, in sclerema, etc.

Bran Bath. Two or three pounds of wheat bran are boiled for about an hour in three quarts of water. The decanted liquor is added to the bath. It is used in intertrigo, eczema, pemphigus, lichen, strophulus, etc.

Malt Bath. A few ounces of malt extract are added to a bath. Malt baths are advised in cases of rachitis, spasm of the glottis, and in general debility.

Mercurial Bath. This form of bath is employed as an adjuvant in the treatment of syphilis. It is usually prepared by the addition of 20 to 30 grains of calomel, or 0.5 to 1.0 gm. (7½ to 15 grs.) of trichlorid of mercury.

Mustard Bath. Two or three ounces of ground mustard are digested in a few pints of tepid water and added to the bath. The temperature of the bath may vary between 100° F. to 106° F. It may be administered in the form of a sitz bath, full or foot bath. The patient should remain in the bath for from three to ten minutes. Mustard baths are indicated in collapse, shock or heart failure from any cause, in sudden congestion of the lungs or brain, etc.

Sea Salt Bath. About a pound of sea

salt is dissolved in a bath of four or five gallons. It is stimulating in its effects, and useful in rachitis, various forms of paralysis, etc.

Soap Bath. This kind of bath is employed in the treatment of prurigo, lichen, strophulus, scabies, etc. It is prepared by the addition of from three to six ounces of soft green soap to five gallons of water.

Sulphur Bath. A half to one ounce of potassium sulphuret should be added to each bath. In some cases the addition of about three ounces of animal gelatin is of advantage. Sulphur baths are used with advantage in rheumatism, eczema, prurigo, urticaria, lead poisoning, etc.

Herman Sheffield holds that a good rule to apply in the treatment of diseases of infancy and childhood is never to give a drug when any other remedial agent may be employed, and thinks that there is no other therapeutic measure which can be carried out with so much ease and advantage as hydrotherapeutics. Discretion, however, must be used in the employment of hydrotherapy in the treatment of the young. Neither extreme heat nor extreme cold should be employed in the treatment of diseases of children. Heat should be avoided on account of the severe depression, and cold because of the shock it is apt to produce.

Williams uses evaporation baths for reducing temperature, because the application of cold water taxes the strength of the patient, owing to the fact of the lack of conveniences in ordinary practice for such a bath, and of persons who know how they should be given.

The directions for giving evaporation baths are these: Give a bath whenever the temperature is 102° or 102.5° F.; have the patient lie on a blanket during the bath; cover him with one thickness of surgeons' gauze, which, when moistened, shall fit the skin perfectly, and sprinkle the gauze with water at about 115° F. Note the amount of water evaporated, and be guided by this in giving the bath, not by the time required to evaporate the water, the rapidity of the evaporization depending largely on the moisture in the air. Have as little clothing on the patient as possible, night and day, or so long as the temperature is 102° F. or more; only a sheet is necessary; in private practice the patient may be without covering.

Hydrotherapeutics has been now placed upon a rational practical basis, and is a valuable part of the physician's armamentarium. The external use of water is indicated in various diseases, both acute and chronic. Cold is our best and safest antipyretic, and its tonic effect upon the nervous system can hardly be overestimated. Hot baths are invaluable as an aid to the proper working of the kidneys and the excretory organs, assisting these to eliminate the poisons which collect in the intestinal canal, brought about by injudicious eating and drinking, and which cause autointoxication and in time lead to serious organic disease.

CONTAGIOUS DISEASES IN NEW YORK CITY.

For the week ending June 22 there were reported to the sanitary bureau 661 cases of measles, with 33 deaths; 526 cases of scarlet fever, with 26 deaths; 396 cases of diphtheria, with 29 deaths; 380 cases of tuberculosis, with 155 deaths; 58 cases of typhoid fever, with 13 deaths; 23 cases of whooping cough, with 3 deaths; 12 cases of cerebrospinal meningitis, with 11 deaths, and 62 cases of varicella, a total of 2,118 cases and 260 deaths. For the week ended June 29 there were reported to the sanitary bureau 762 cases of measles, with 34 deaths; 401 cases of scarlet fever, with 29 deaths; 356 cases of diphtheria, with 41 deaths; 317 cases of tuberculosis, with 142 deaths; 54 cases of typhoid fever, with 6 deaths; 31 cases of whooping cough, with 12 deaths; 9 cases of cerebrospinal meningitis, with 16 deaths, and 154 cases of varicella, a total of 2,084 cases and 281 deaths.

VICTIMS OF THE PLAGUE IN INDIA.

Returns of deaths from the plague in India show an appalling total of 1,060,067 for the six months ending June 30, 1907. The monthly total is at present decreasing, however, the death roll for June alone being 69,064.

The total for the first half of the present year surpasses that for the entire twelve months of 1904, when 1,022,000 persons died from the plague. The present half year's record is the highest ever recorded.

ANONYMOUS.

We do not know who sent this poem to the Gazette, nor do we know that it is intended as a compliment to New York women; the reader will judge for himself:

The Devil in Search of a Wife.

His Majesty Satan one morning awoke,
And was told that his wife was dead,
And he pensively said this is really no joke,
For my household requires a head;
But where shall I find on this limited earth
A creature to fill such a difficult berth?

For she must be learn'd and fluent of tongue,
And shrewd as the shrewdest of men,
Undeniably handsome, deliciously young,
Indifferent also to gain;
For I must be loved for myself alone,
And not for my dark "Plutonic Throne."

But far more important than beauty or wealth,
Although I must have them as well,
Are the virtues of innocence, candor and truth,
For although I may reign in hell
The woman that holds my wife's position
Must be like "Cæsar's," above suspicion.

So the devil set out on his difficult quest
For a lady to go below,
But he found he was losing his natural rest,
And his progress dreadfully slow;
For the person he sought was not easy to find,
And political cares were perplexing his mind.

The maidens of England were lovely he saw,
A nation of fair-haired queens;
But those lovely lips could lay down the law,
And they lived beyond his means;
So he quietly took his departure for France,
And there the Parisians led him a dance.

He certainly thought for a while he had found
The actual thing that he wanted,
But before the last day of the month came round
The devil was somewhat daunted;
These ladies are quite beyond me 'tis plain,
He remarked with a blush as he quitted for Spain.

But there, though the women were pretty and kind;
He was very much disappointed;
They had lips to be sure, but he wanted a mind,
And their hair was too much anointed.
So again his majesty sallied forth,
And this time directed his steps to the north.

But why should I tell of his lengthening work
And the various countries he tried,
Till a friend who had been there suggested "New York,"
And he instantly thitherward hied;
But prompt as he was the women were ready,
Their heads were clear and their hands were steady.

They gave him one look and they looked him through,
And they knew what he came for at once;
And innocence beamed from their orbs of blue,
And candor was queen, for the nonce.
Oh! you should have seen how their eyelids fell
As they timidly asked for the news from hell.

The devil was flurried, flattered and pleased,
Such perfect good breeding, such sense;
His heart-expressed thoughts were so readily seized,
And nothing he said gave offence;
He had never felt such a home feeling before,
And he liked and admired them more and more.

But the time was too pressing for him to wait,
A longer acquaintance to choose;
He offered his throne, and his royal estate,
Himself and his dead wife's shoes,
To a damsel whose candor and virtue intact
Seemed all that the devil himself could exact.

She accepted his offer and did not repent
When the day for the nuptials drew nigh,
For the road into hell has an easy descent,
And her friends would drop in by and by.
And the devil declared himself perfectly bless'd
As this exquisite creature he tenderly pressed.

But when she was married and safely installed
It is said that the devil was somewhat appalled
By the bargain he found he had made,
And thought on the whole he'd have done quite as well
Had he stayed in his kingdom and married in hell.

LONDON LETTER.

THE Croonian Lecture was delivered in London, on June 18, 20, 25 and 27, before the Royal College of Physicians of London, by Dr. W. I. R. Simpson. The subject was that of plague, of which Professor Simpson is certainly one of the most distinguished living authorities. So far as America is concerned, the disease of plague has no direct interest, but it is more or less prevalent in the Philippine Islands and, of course, it would be to the benefit of the human race at large if the dread malady could be abolished. Dr. Simpson in the lecture to which reference is made traced the history and course of plague in all parts of the world where the disease has ever appeared. At the present time the chief interest of the pandemic now raging lies in India. The deaths from plague in India during the past five years and four months reach over 4,500,000, representing one death in every 60 of the inhabitants of India. With regard to the causation of plague, Dr. Simpson points out that while the flea theory will account for a certain percentage of fatal bubonic cases, yet these insects are responsible but for a comparatively small number of the fatal cases. Contaminated food is, according to Dr. Simpson, the cause of a very considerable number of cases of bubonic plague.

However, it is now universally admitted that except in pneumonic cases rats are the principal agents in the dissemination of the disease, though personal contact also plays its part. Clothes and human agency likewise have their respective rôles in the spread of the disease. As to how rats spread the disease, Dr. Simpson says that the more that is learned of plague the more it is evident that there is only one way. Probably the plague problem will be solved ere long. Eminent investigators are making researches into the matter in the far East, and although it may seem that a final solution is not yet in sight, undoubtedly great progress has been made in this direction.

The London County Council resolved a few months ago that cerebrospinal meningitis should be made notifiable in the British metropolis. A committee, of which the president is Sir R. Douglas Powell, was requested by the London County Council to consider the question, and made the following report:

"We find clinically that although as regards symptomatology and duration there are some differences which might separate the most marked cases of cerebrospinal fever and posterior basal meningitis from one another, nevertheless intermediate cases occur in which such differentiation is impracticable. It cannot be maintained by experts with absolute certainty that there is any demonstrable difference in the bacteriology of the two diseases. The organism which is commonly associated with each disease is microscopically the same, such variations as may be met with being dependent on minor differences in cultural character. It is noteworthy that, so far as has been ascertained at present, both diseases tend to occur during the earlier months of the year, and that, although the occurrence of the disease in both instances is epidemic, in neither has it the characteristics of a spreading malady. It is somewhat curious that up to the present time there has never been any serious epidemic of cerebrospinal meningitis in Great Britain, although the epidemics of spotted fever in Glasgow and in Belfast have occasioned many deaths, yet neither of these can hardly be said to be epidemics on a large scale. Much might be learned here from America with respect to cerebrospinal meningitis."

The London County Council has taken steps to stop the supply within the county of London of tuberculous milk, and it has been proposed that the Council should seek authority to deal with milk which at the time of entry into London was contaminated with dirt and filth.

Sir James Barr, one of the best known of British physicians, made a speech of a very startling nature at the Congress of the Royal Institute of Public Health held recently. The text of his discourse was "Preventive Medicine the Medicine of the Future," and in the course of his address he said that "if medical men would deal with physiological conditions as well as pathological, and tell patients how to keep well and not merely how to get well, they would get more patients." The *Lancet*, referring to the statement, remarks that this is a very pretty theory, but one which cannot be fully endorsed. If there was a real demand for information as to the rules of health on the part of a large number of people, it is certain that the medical profession would be only too pleased to supply them; the trouble is to get even those who are ill to follow the dictates of reasonable authority as to their mode of life unless they be actually suffering some pain or other subjective reminder of their condition. Sir James Barr paid some attention to political matters, pointing out that it was the duty of a government before granting pensions to old people to provide for the adequate nutrition and hygiene of its nursing mothers and young children, and to insist that its school children are properly fed before any attempt is made to teach them, whilst it might well leave to individuals the care of their own old people. A pessimistic and caustically critical speech on the whole, Sir James Barr is able to derive a certain amount of hope for the British race from its women. He says: "I have great faith in the British women, the potential mothers of the next generation. They do not show so much deterioration, except in the very lowest strata, as the men, and in the upper and middle classes the girls of to-day will bear a very favorable comparison to their mothers and grandmothers." The speaker paid due credit to sanitary science for the decline in the ravages of tuberculosis and of many of the specific infectious disorders, but he drew attention to the fact that there has not been a corresponding diminution in deaths from those that more especially affect children. Sir James Barr concluded a vigorous speech by once more insisting that he was more concerned with the efficiency of life and not merely with a useless longevity, and that the maintenance of the vitality and manhood of the nation is the true aim of medicine. His parting words were for the surgeons, and he gave it as his opinion that there existed a certain lust for operations. He also truly remarked that the very existence of the surgeons depends upon the inefficiency of true preventive medicine. The position of medicine and surgery does not differ to any great extent in America and in Great Britain. As in Europe, so in America preventive medicine is the medicine of the future. Perhaps the lust for operations is more strongly developed in America than in the old world, but the tendency on both sides of the Atlantic to prevent rather than to cure disease is obviously in evidence. A speech like that of Sir James Barr, at any rate, sets people a thinking concerning a subject of national importance, and it must be remembered that in these days one must hit hard to make any impression.

Anthrax amongst human beings is a disease that has been occupying the attention of medical men and sanitarians in Great Britain of late. The malady has been somewhat prevalent in and about Bradford, the centre of the wool industry in Yorkshire. The malady is now being made the subject of a special inquiry.

Under the presidency of Sir Lauder Brunton the Second International Congress on School Hygiene will be held at the University of London from August 5 to 10.

Epidemic cerebrospinal fever has diminished in Great Britain. In Scotland during the week ended July 13 there were 6 deaths from this cause registered in Glasgow, 4 in Edinburgh, 2 in Leith, 1 in Dundee and 1 in Paisley. In Belfast, Ireland, during the week ended July 6 there were 10 deaths registered as being due to this cause.

The number of street accidents in London appears to be steadily increasing. The metropolitan police reported that in 1891 such accidents amounted to 4,766; in 1901 they reached 7,995, an increase of over 42 per cent. in ten years. In 1903 they amounted to 10,363, an increase of over 25 per cent. in two years, and of these 10,363, 154 were fatal. The *Lancet* in its issue of July 20 points out that these and other figures quoted in the report show that a real necessity exists for an extension and improvement in the London street ambulance service. Reference was made in a previous letter to the inadequate and defective street ambulance service of London.

The seventy-fifth annual meeting of the British Medical Association will be held at Exeter from July 30 to August 3.

Sir William T. Gairdner, one of the best known Scotch medical men, and who for forty years filled the chair of the practice of medicine in the University of Glasgow, was buried on July 2. Among those present at the funeral were the members of the Senate and University Court, representatives from the corporation of Glasgow, the General Council of the University, the Faculty of Physicians and Surgeons, Glasgow, and the University of Edinburgh.

Sir William H. Broadbent, K.C.V.O., M.D., F.R.S., etc., died on July 10. The deceased physician was one of the greatest of British medical men, and will be remembered by those of the American medical profession who attended the meeting of the British Medical Association at Toronto last year as a prominent figure. He had a distinguished career, was physician in ordinary to the king and a writer of note on medical matters. In collaboration with his eldest son, Dr. John Broadbent, Sir William Broadbent produced a book on heart disease which is acknowledged to be one of the best works ever written on the subject. He also wrote several other authoritative books dealing with various aspects of disease. About nine months ago Sir William Broadbent had a severe attack of pneumonia, followed by an empyema, which was successfully relieved by operation. He never, however, recovered his strength, and gradually faded away.

THE DISINTEGRATION OF GEORGE HARDIN.

By E. W. and N. H. Buskett,
Coffeyville, Kan.

Those who read the newspaper account of the strange case of George Hardin supposed the article to be a clever hoax, written by some reporter who was temporarily out of material and who possessed a vivid imagination.

Even the people of the little town of Newburg, where Hardin lived at the time of his death, were loath to believe such a thing possible, but the affidavits of the two attendant physicians and nurse finally convinced the residents of the village that the phenomena had actually occurred as related.

Several representative citizens viewed the unrecognizable remains, and their evidence corroborated, in a measure, the statements of the physicians and the nurse. Among those present was a correspondent for the Associated News Company, and it was he who sent the report which for a time made Newburg famous broadcast over the civilized world.

It is my good fortune to be a life-long friend of Dr. Bolles, the physician who attended Hardin during his last illness and who was the only person in the room at the moment of his demise. From him I received the following account of Hardin's mysterious illness and unprecedented dissolution. I will give the story as nearly as possible in the doctor's own words:

"On July 1st, 1905, I was called to Mrs. Bishop's boarding house to attend the man Hardin. When I entered the sickroom I was struck by the extreme pallor of the patient; although he had been sick only two days, he was very pale and emaciated and his veins stood out like whipcords. They were not blue as is ordinarily the case, but white, showing an impoverished condition of the blood.

"I found his temperature normal. His pulse was weak and irregular and on his arms were purple spots having the appearance of bruises. He appeared to be about thirty-five years of age and had once had a powerful physique.

"He was suffering from stomach trouble; an aftermath of a very severe case of typhoid fever he had had ten years prior to the time I attended him. He told me he had had a hemorrhage of the stomach while he was recovering from the fever, but that the physician who attended him told him it was from the throat, and treated him accordingly. Consequently during the ten years which had elapsed he had suffered a great deal from gastritis, which culminated in the present attack, which proved to be ulceration of the stomach, with anemia.

"I did not consider his condition serious and prescribed the usual remedies. As the patient had no one to attend his needs I telephoned to the hospital for a nurse, who came at once. I instructed her as to the treatment and left.

"When I called the next morning the patient was resting quietly. He had slept all night and his temperature was normal. His pulse, however, was weaker and more irregular than on the previous day. On bending over the patient to remove the thermometer from his mouth I noticed a quantity of short hair on the pillow, and upon investigating I found that his hair was very brittle. As he turned his head from side to side wisps of hair would break off and were being ground to a pulp against the pillow.

"I could see that his condition was now very serious and that more specific treatment was necessary, so I instructed the nurse to give him a sponge bath of salt water and whisky and left to make my regular calls.

"I did not return until the next morning, the nurse having telephoned me that Hardin was much better. She told me he had eaten a hearty supper and had gone to sleep. She also reported that his pulse was much stronger and more regular.

"When I called the next morning Hardin was sitting up in bed eating his breakfast. He spoke to me as I entered the room and seemed to be feeling much better.

"He finished his meal and the nurse removed the tray. He lay down and pulled the bed clothes up around him. As he did so I noticed that his finger nails were nearly gone, having been broken off in handling the bed covers. He had noticed this and also his hair, and asked me if they would grow back. I replied that such phenomena were common symptoms of anemia, and assured him that his hair and finger nails would grow again when his blood got thicker.

"I gave him a hypodermic injection of strychnine and told the nurse to give him another bath of salt water and whisky. I then left, promising to call again in the evening.

"It was ten o'clock that night when I got back to Hardin. I had had a very busy day, but decided not to let him wait until morning for fear of complications, as his condition was still very serious.

"The nurse met me at the door of Hardin's room. She told me that he was too weak to get up and that she had given him his bath in bed. She also told me that his skin was so brittle that it rubbed off on the sponge.

"I entered the sickroom and made a minute examination of the patient's flesh. He was in a semi-conscious state and his pulse was scarcely perceptible. I found that his skin and flesh were so brittle that I could pinch a piece out of him and crumble it to a powder between my fingers.

"I now saw that it was impossible for the patient to live, but on account of the peculiarities of the case I decided to call in Dr. Moore for consultation. I called him by telephone and he agreed to call with me at eight o'clock in the morning. I thought Hardin would live through the night, so I gave my last instructions to the nurse and left.

"When we arrived at the house on the morning of July Fourth the firecrackers were popping savagely and youthful America was doing its best to give vent to its patriotism.

"The nurse met us at the door and told us that Hardin was still unconscious, but that the firecrackers disturbed him.

"Boom! The windows rattled from the explosion of a cannon cracker somewhere down the street.

"We ascended the stairs. I was in the lead, Dr. Moore and the nurse being some distance in the rear. As I stepped into the sickroom I looked at Hardin. He was lying rigid and unconscious.

"Boom! A cannon cracker exploded directly in front of the house. Hardin's body rose from the bed; a white mist surrounded it for a moment; when it cleared away the bed and floor were covered with an impalpable white powder which had once been the body of Hardin. The concussion from the explosion had thoroughly disintegrated my brittle patient."—*The Medical Standard,* July, 1907.

[We insert the above article, not because of a belief that the circumstances as detailed really occurred, but as an item of interest, showing to what extent the imagination may go when treating of serious subjects. This article, as will be seen, is a copy of one that appeared in the *Medical Standard,* July, 1907, a reputable journal and one that we would not think given to publishing fiction. In consulting the Medical Directory, issued by the American Medical Association, we do not find a "Dr. Bolles" in either Newburg or Coffeyville, Kas., nor does it appear that either E. W. or N. H. Buskett are physicians. Our readers will doubtless place a proper estimate upon the paper.—EDITOR.

ACTION OF TEA.

ACCORDING to Brunton (*Canadian Practitioner and Review*), tea may interfere with nutrition in three ways: First, by lessening the feeling of hunger; second, by rendering food less digestible, and third, by interfering with the digestive power of the stomach. At the same time that it thus lessens the nutrition of the body it enables the person to use up much more energy than he or she would be able to do without its aid, and the consequences of this are most evident in the effect on the nervous system. Although tea prevents the sensation of fatigue from being felt for a while, yet exhaustion is going on, both in mind and body, and this usually at length causes disinclination to either mental or bodily exertion, and tends to destroy the power of doing any useful work, either mental or physical, even when the attempt is made. Power of self-restraint is diminished and the person becomes nervous, unduly sensitive, timid and emotional. Not infrequently ringing in the ears is felt, giddiness, headache, sometimes very severe neuralgia and tremulousness. The tremors seem to be more readily induced by green tea than by black tea, and Brunton has known of one case in which two or three cups of green tea were sufficient to induce marked tremor. Neuralgia is very apt to occur in nervous people who are able ordinarily to take a great deal out of themselves, either by sheer force of will or under excitement, and are thus more liable to reduce themselves below normal than those of more lymphatic temperament.

Neuralgia has been described as the prayer of a nerve for better blood and more of it, and tea, by enabling these people to take even more out of themselves than they otherwise could, will render their neuralgia more severe and more continuous. It is evident that a similar result is to be expected in regard to other nervous functions, and that the stability of the brain may be so seriously impaired that the combination of starvation and stimulation, produced by excessive tea drinking, will certainly produce a tendency to mental derangement, even if it does not actually determine its onset. In addition to its action on the nervous system, however, tea is a powerful stimulant to the circulation, and, if abused, will lead to feebleness of the pulse and to palpitation. All teas are not equally injurious. Ceylon and India tea are preferred by many people to China tea on account of their aroma and stimulating qualities, and, so long as they are taken in moderation and prepared in the right way by simply infusing for two or three minutes, and then pouring the water off from the leaves, they will suit healthy people very well. Whether on account of the higher proportion of tannin they contain, or some other reason which we do not yet know, they are not so good for weak digestions as China tea, which, especially if it is prepared in the way just recommended, by infusion for two or three minutes only, is less likely to cause dyspepsia than other kinds of tea. The physiologic action of tea is usually attributed almost entirely to the alkaloid, theine or caffein, which it contains. but Brunton does not think that this can be the case, because green tea, which contains no more of the alkaloid than black tea, has a much more powerful effect on the nervous system, an effect which cannot be explained by the somewhat larger proportion of tannin, and must, he thinks, be due to some other constituents in the leaf. Green tea and black tea are not obtained, as many people suppose, from different varieties of the plant, but only differ in their method of preparation; the leaves which form the green tea being roasted in a pan shortly after they are plucked, while those that form the black tea are allowed to undergo a form of fermentation before roasting. Brunton sums up his paper as follows: Tea when properly prepared, and taken in moderation, is both useful and agreeable. When taken in too great quantity, or along with meat, when too strong, when infused too long, or still more when boiled or stewed, it is apt to produce digestive troubles. When taken in excess it may produce nervous symptoms of the most serious character, and facilitate, if it does not actually produce, mental degeneration.

WATER SUPPLY AND PUBLIC HEALTH.

In a series of papers in the *Journal of American Medical Association* written especially for engineers, but containing points of interest to physicians, we find a very interesting history with statistics concerning outbreaks of Asiatic cholera, typhoid fever and other diseases, especially epidemic diarrhea, that are traced directly to water supply. Weil's disease or infectious jaundice and even anthrax, the latter infecting animals grazing over land which may have been inundated by water from tanneries, etc. It negatives absolutely the claim of drinking water as a source of malaria. Most common source of infection is by mixture of sewage, especially that containing human discharges. Infection from outhouses and privies of farmers more dangerous than city sewage.

Foul odors which frequently arise in reservoir waters are due to products of decomposition of microscopic algae, of which there are several groups. The diatoms, especially the *Asterionella*, multiply in great abundance, if water is exposed to light these give odor and taste of geraniums, and in some cities it has been necessary to roof over the storage reservoirs. Other diatoms, though of less importance, are *Tabellaria* and *Meridion*.

Another class, the blue green algae, gives a mouldy or grassy odor and taste, which on decomposing gives an odor very suggestive of the pig pen. This is produced by decay of organic compounds containing sulphur, phosphorus, etc. The grass green algae give the more or less fishy odors.

In the group of infusoria, *Uroglena* and *Synura* give various odors as of ripe cucumbers, Irish moss, salt marsh and even of candied violets.

Another microorganism, *Crenothrix*, or iron fungus, is especially noted for its deposits of iron on sides of pipes and conduits. These deposits frequently break off and appear as dark brown flocculent masses. None of these groups are at all dangerous, simply affecting the esthetic sense of the drinker. Some deleterious effects may result from the solvent action of water on metals, especially lead. Waters containing oxygen or carbon dioxid, soft water and peaty acids in water running through swampy regions have special tendency to dissolve lead. Zinc, iron, copper and tin may also be dissolved, but not to an extent great enough to be dangerous.

Features that constitute a satisfactory water supply are sanitary quality, crudely evidenced by absence of typhoid, clearness, brilliancy, free from odor and taste and not too hard.

Examination of water under these heads: Environmental; water in shallow wells in densely populated neighborhood or from lake near outflow of sewage needs no comment. Ground water is rain water that has percolated through layers of soil and undergone a filtration. Its purity depends on depth of well. Surface water exposed to light and air, as in ponds, lakes, etc., contain many forms of organic life.

Chemical examination shows presence of nitrogenous compounds occurring as albuminoid ammonia, organic nitrogen, free ammonia or as nitrites and nitrates. Albuminoid ammonia if present in large quantities signifies probability of large amount of sewage or excreta. Fresh sewage shows large amount of albuminoid ammonia, while stale sewage shows more free ammonia due to bacterial action. Presence of nitrites and nitrates shows pollution of water has occurred in the remote past. Chlorin is always present, but an excess above the "normal chlorin" is often obtained from sewage or sink drainage. These cisteria are relative only as an abundance of any one is simply indicative of a liability of contagion.

On bacterial examination, although there may be a multitude of bacteria, yet comparatively few are dangerous. One method is counting colonies from a definite amount of water on nutrient gelatin plates. This has several objections, in that bacteria multiply in time from taking specimen to examination. Quantitative examination is empirical only; kind is more important than number of bacteria. The test most widely used is for colon bacillus and based on its gas producing qualities, but essential feature is based more on relative abundance than on mere presence. Streptococci are frequently found, but they are less hardy than typhoid or colon bacilli. Bodies of water, especially a flowing stream, have tendency to self-purification and destruction of germs. Question frequently raised as to distance in which water purifies itself is answered not so much by distance as by time. No set distance or time can be established, as instances are known of typhoid epidemics breaking out in cities, nine, seventeen and twenty-six miles below a city having an epidemic. Each case must be a rule to itself. Examinations of water at different points below a city show first organic nitrogen and free ammonia in large abundance. Lower down these diminish and we find increase in nitrites and nitrates and an absence of typhoid bacillus.

Artificial methods of purification by house filters is quite satisfactory if filters can be procured made of exceedingly compact material. Pasteur-Chamberland and Berkefield are the best types. Objections to house filters is on the ground that frequent cleansing is necessary but seldom properly done. Mechanical filtration is based on the precipitate formed by addition of sulfate of alumina, which entangles bacteria. This is filtered through coarse sand, which removes the precipitate and bacteria. But by far the best method is boiling the water, not so much for absolute sterility as for practical safety; a long time of boiling, therefore, is not necessary. Other methods such as ozone and certain chemicals are mentioned only to be condemned.

CLIMATE IN THE TREATMENT OF TUBERCULOSIS.

To get at the bottom of the problem the following questions must be successfully answered: First, why is fresh air so important? Second, why is sunshine advantageous? Third, why is an open air life preferable? Fourth, how much exercise is for the best? Fifth, is altitude a factor to be considered?

To answer these questions successfully, says the *St. Louis Medical Review*, May 4, 1907, a few facts concerning the pathological anatomy and physiology of the disease must be given. The signs and symptoms of tuberculosis are produced by the bacteria and the toxins of the tubercle bacilli and the organisms associated in a mixed infection. The tubercles, whether located in the lungs, other viscera, joints, glands or skin, have a characteristic formation. The toxins have a tendency to produce proliferation of the connective tissue, and hence a walling-in of the bacteria. This is the beginning of the healing process, which is not always successful. In some instances a softening occurs and there is a liberation of the toxins and bacilli of the tubercles. These pass to a greater or less extent into the blood and lymph of the body and produce less or more marked hectic fever, weakness, night sweats, cough, etc.—the typical symptoms of tuberculosis. It has been conclusively proved that rest of a tuberculous joint will cause a cessation of the systemic symptoms of the disease, whereas marked exercise or massage of the joint may bring on the systemic symptoms. It is not always easy to produce distinct systemic reactions by exercise or massage of a tuberculous joint, but it can be shown by the opsonic index tests that the tuberculous poison is absorbed by the fluids of the body to a much greater extent during exercise than during rest of the infected part. An X-ray exposure, it has been shown, produces the same effect as exercise. The difference between tuberculosis of the joints and tuberculosis of the lungs is that absorption from the latter takes place, by virtue of the profuse blood supply, very much more readily than from the former, and it is impossible—or practically so—to put the lungs at rest, whereas a joint may be placed easily at absolute rest. In a case of tuberculosis, then, where there are signs or symptoms of toxemia, it is plainly indicated that the patient should be put at as nearly absolute rest as possible.

To answer the first question. Fresh air, *i.e.*, air with its full portion of oxygen free from contamination material, is important for two reasons: first, the functions of the body are normally performed only when supplied with the normal amount of oxygen; and second, when the percentage of oxygen of the atmosphere is reduced, the rate and depth of the respiration must be proportionately increased in order that the body tissues shall not suffer for want of oxygen. Therefore the best air possible should be at the disposal at all times of a patient who has a sufficient lesion to produce any symptom of toxemia. From this course of reasoning it seems that an atmosphere in which the percentage of oxygen has been increased would be the best if properly used.

The second question is answered more easily. Not only a sick person, but an entirely healthy individual has his psychic conditions readily influenced by pleasant or unpleasant climatic conditions, and it is well recognized that morbid conditions of the mind are not favorable to a recovery from physical ailments. The sunshine destroys tubercle bacilli within a few hours, and hence is serviceable as a prophylactic measure.

The third question is practically answered in the two previous answers; the tubercle bacilli remain alive for any length of time only in protected places —especially dark, damp, filthy and poorly ventilated houses. Confining work may subject one to bad air, irritating dusts, intimate association with a careless consumptive, and many other harmful measures. Open air employment decreases, if it does not obliterate, these factors.

The fourth question is often difficult to answer. Suffice it to say that a patient with any signs of toxemia should not take exercise. And after all signs of toxemia have been absent for some time, exercise should be begun with the greatest caution. Any sign of bad effects from the exercise should at once send the patient to his bed with a warning to begin more gradually after a disappearance of the symptoms. Exercise should be gradually increased to a reasonable extent if no symptoms result from it, and should be taken at regular intervals. At first it is perhaps best to begin the exercise on every third or fourth day rather than on every day.

The answer to the fifth question depends upon the fact that in a rarefied atmosphere respiration must be deeper and more rapid, in order that the tissues shall obtain a normal supply of oxygen. Therefore those cases in which the symptoms of the disease are present should not be sent to a higher altitude. In fact, a lower altitude is indicated. Those chronic cases in which, all acute symptoms being absent, the patients find it difficult to take a reasonable amount of daily exercise may be benefited by residence in a higher altitude.

The moving of a patient necessarily causes much worry and exertion on his part, and hence a greater elimination of toxin and a more aggravated state of his symptoms. Which cases then may be judiciously sent to other climates? Only those in which the disease exists in a subacute or chronic form, and in which signs are not aggravated and symptoms are not readily produced by exertion. It may be possible by keeping the patient at rest for some time that his condition will become such that he can be safely moved.

Of the patients above described, only those whom the change does not deprive of good nursing and home comforts and associations should be sent away from home.

CLINICAL VIEW OF GASTRIC ULCER.

Ulcer of the stomach is due not alone to local disturbances, but to general conditions and is not to be treated locally alone. Dr. Turck, in *Medical Record* of May. 25, 1907, reports interesting experiments on dogs in which he endeavored to cause an ulcer by feeding irritants, but without avail. He then injected subcutaneously and fed by mouth bouillon culture of feces of patients having ulcers. Ulcers developed in the dogs, which healed up on discontinuing the injections and instituting proper treatment. Treatment is under three heads: (1) Proper nutrition of whole body; (2) re-establishment of functional activity; and (3) employment of measures to inhibit growth of intestinal flora. Rest of stomach by withholding all food until hunger asserts itself. Then feed at intervals of once daily the largest amount of nutrition in smallest bulk. Dr. Turck recommends meat free from extractives by maceration and boiling, thus removing the media for bacterial multiplication and also hydrolyzing connective tissue into gelatin and rendering it more easily digestible. This process aids in rest, in that meat thus prepared passes directly out of the stomach. Mineral water and carbonated water are useful in flushing intestines, but are objectionable because of exciting increased hydrochloric acid secretion and increasing atony by acting as a dead weight. Most important treatment is by mechanical exercise of the stomach by stomach tube, stretching being the impulse most frequently responded to. Colon lavage alternating hot and cold in small quantities stimulates peristalsis and exercises stomach.

DANGER SIGNAL OF THE SKIN.

Many skin lesions are recognized as phenomena of general diseases, but many lesions are treated locally by general practitioners when they should be studied and their relation to general health more closely investigated. This is the idea of Dr. Buckley's article in the *Journal of the American Medical Association.*

Generalized eczema is almost always a sign of nervous or general breakdown, localized neurotic eczema indicated; a severe nervous strain, eczema about the eye is from eyestrain. Eczema may occur in full plethoric habit with bounding pulse and be indicative of kidney lesion or apoplexy. Or with weak flabby pulse shows debilitation or anemia.

Acne, a sign of metabolic disturbances or dietary errors is often also a first sign of breakdown from overstudy or confinement. Acne of the chin frequently indicates sexual disorders.

Psoriasis follows nervous strain or exhaustion and it frequently points out grave kidney lesions. Chronic urticaria and erythema multiforme shows faulty metabolism and intestinal indigestion. Pruritus from lowered nerve vitality. Crops of boils and carbuncles indicate lowered general vitality, possibly even glycosuria, Acanthosis Nigricans, a sign of cancer of some abdominal organ. Lupus is often associated with tuberculosis of other organs.

ENZYME FROM RADISHES.

The filtered and dialyzed juice of the common radish possesses a marked hydrolyzing action on starch (*Phar. Jour.*, No. 3568, p. 293). The sugar produced by its action has been identified as maltose. The ferment has been precipitated and obtained as a powder. Radish juice contains no proteolytic ferment, since it has no action on fibrin or albumin in either acid or alkaline media.

CODEINE SAFETY AGAIN DEMONSTRATED.

Dr. E. L. McKee, of Cincinnati, Ohio, speaking of Codeine, in the *Denver Medical Times,* says: "This drug, according to Butler, is one-fourth as toxic and effective as morphine. It is less depressing and more stimulant, does not constipate, cause headache or nausea, and rarely leads to the formation of a habit. Codeine seems to exert a special, selective, sedative power over the pneumogastric nerve, hence its value in irritative laryngeal, pharyngeal and phthisical coughs with scanty secretion. Like morphine, it has proved of value in checking the progress of saccharine diabetes, and it has been used for long periods without the formation of the drug habit, inasmuch as when glycosuria was brought to a termination by dietary and other measures, the cessation of the use of codeine was not followed by any special distress. The effects of codeine on the alimentary canal are remarkable, in that it assuages pain as well or better than morphine, and nevertheless does not check the secretions or peristalsis notably, unless the latter is excessive, as in dysentery. The statement that codeine is simply a "little morphine," only differing from the latter in the size of the dose, is an erroneous view, as can be ascertained by any one who closely observes the action of the two drugs."

Codeine in connection with antikamnia has stood the test of exhaustive experimental work, both in the laboratory and in actual practice, and they are now accepted as the safest and surest of this class of remedies. Therefore, "antikamnia and codeine tablets" afford a very desirable mode of administering these two valuable drugs. The proportions, antikamnia 4¾ grs., codeine ¼ gr., are those most frequently indicated in the various neuroses of the larynx, as well as the coughs incident to lung trouble, bronchial affections, grippal conditions and summer colds.

TUBERCULIN TEST.

Dr. Ambler, of Asheville, N. C., in *Journal of American Medical Association,* urges the profession to a more universal use of Tuberculin for early diagnosis, claiming that it has not been proved that a latent deposit will be excited by its use. Should be used in cases which give history of short hacking cough, bronchial inspiration or possibly prolonged expiration with slight dullness, but in which temperature, sputum, history and weight are negative. Administered hypodermically in subscapular fascia beginning with two mg. If no reaction in three days give five mg. A local reaction consists of congestion, swelling, pain, tenderness and increased secretion. General reaction consists of fever, pain in back and joints, nausea. vomiting, headache, cough, expectoration, restlessness, chills. Temperature may vary one to four degrees.

TREATMENT OF GRAVE'S DISEASE.

It is generally conceded to-day that Grave's disease is due to changes in vascularity and consistency of thyroid gland and therefore an increase or altered activity of its parenchyma. This perverted secretion acts as an irritant on the heart and nervous system.

Dr. Booth, in the *Medical Record* of June 15, 1907, divides these cases into three classes, differing only in amount of toxemia, the first two of which are amenable to treatment, but the prognosis of the third class is grave. Rest, electricity, medication, thyroidectomy and cytotoxic serum are lines of treatment. Operation is preferable, as improvement is more rapid and permanent. Drs. Rogers and Beebe have introduced a specific serum which has given good results, but is still in experimental stage.

BIMANUAL VIBRATORY PALPATION.

In order to map out definitely an abdominal tumor Dr. Howard A. Kelly, in *Journal of American Medical Association,* gives us a method as follows: With the finger of one hand lightly touching the cervix or lower part of a tumor the other hand makes rapid light vibratory strokes over the tumor above.

The sensations are felt more distinctly as the periphery is approached, but stop instantly the vibratory hand passes beyond the tumor.

OCCUPATION IN TREATMENT OF INSANE.

Dr. Moher, of Brockville, Ontario, in the *Journal of the American Medical Association*, May 18, 1907, insists on occupation both as a prophylactic and a therapeutic remedy. Manual labor for those previously accustomed to mental work serves to diminish their delusions at first simply while working later on a permanent cure. Study temperament of patient and suit occupation to it, but do not use force. Simple occupation at first, such as work in the ward until patient reaches "out door" stage. Results: patients are less restless, sleep better, appetite better, secretions improved and are better behaved in the ward. Coated tongue, constipation, diminished secretions disappear and we find marked improvement in mental condition. Dr. Moher does not attempt to explain why, except that frequently delusions are but mental expressions of physical disease.

PLEURAL EFFUSION.

When the fluid in a case of serous effusion has been drawn off Dr. Lees urges the application of an ice-bag over the affected side, to be continued for some days. This tends to hinder the fresh secretion of fluid. It is also an advantage to encourage the patient to take deep draughts of air into the lungs, as this promotes the expansion of the lung which had been compressed by the fluid effusion.

POPULAR EDUCATION IN MEDICAL MATTERS.

Indifference to rules of cleanliness and hygiene, rules of living and diet are more responsible for disease than infection. Dr. Wright, in the *Medical Record,* May 25, 1907, pleads for a more thorough education for both old and young. False modesty in regard to teaching sexual functions should be discarded. Teach physiology of digestion, respiration, procreation, ventilation and above all cleanliness. Education should be begun with teachers, as many of them are more in need of instruction than their pupils.

PAINLESS APPLICATION OF CORROSIVE SUBLIMATE.

Appleman states that when solutions of corrosive sublimate are made with normal salt solution instead of water they do not cause the slightest pain when applied to the mucous membranes.

To Counteract the Fumes of Formaldehyde After Disinfection.—Dr. E. V. Wilcox, of Washington, recommends in the *New York Medical Journal* a liberal use of ammonia after formaldehyde has been employed as a disinfectant, and gives the following report of a case in point:

In fumigating the sick room containing 1,500 cubic feet of space, two quarts of methyl alcohol were consumed in a formaldehyde generator and in addition three pounds of commercial formaldehyde were exposed on the sheets. As soon as the room had been ventilated sufficiently to make it possible to work in it, one and one-half quarts of ammonia were sprinkled over the rugs and bedding, and the room was closed again. About the same proportion of ammonia was used throughout the other rooms of the house where the quantity of formaldehyde generated had been relatively somewhat less. The formaldehyde fumes were completely destroyed within one-half hour, and the odor could not be detected in any part of the house except where formaldehyde had been spilled on the floor and had left an incrustation of paraform upon the woodwork. As soon as these spots had been treated with ammonia the odor of formaldehyde disappeared entirely.

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by FRANKLIN W. BARROWS, M.D.

THE TEXAS NURSES ASSOCIATION.

OUR readers in Texas were disappointed when they looked in the last GAZETTE for the report of their State meeting. We were also disappointed in failing to receive the report mailed in July by the Secretary. She has taken the trouble to prepare a second report, which we print in this number—a month later than we intended.

From newspaper accounts of the Convention we infer that the attendance was gratifying and that the general results of the meetings were encouraging to the friends of the profession of nursing.

The address of the President, Miss Jennie S. Cottle, who is Superintendent of the Training School of St. Joseph's Infirmary, Houston, revealed a frank and progressive spirit. She is not blind to the imperfections in her own profession, or to the difficulties that oppose the work of a State Association; but she is not afraid to look the situation in the face or to fight in the open against the foes of professional advancement. And so she said, among other good things:

> The test of a nurse's strength lies in her loyalty to her own reputation, and to the profession at large. The object of this association must be uppermost in our minds, our hearts; and it means work, strenuous work; time, precious time; money, much money.
>
> Each one of us, no doubt, is frightened with her own responsibilities, and it seems almost impossible to take upon ourselves any more expense or care, and in the distance and future we see a limited treasury, long distances to travel to the meeting meaning almost always to each individual an expense she rarely wants to stand. And, I repeat, unless we have our cause at heart and the object for which we are working firmly rooted within us, we cannot expect results. We will see our cherished plans trampled in the dust; we will hear our profession positively ridiculed.
>
> When I look behind me and around me into the faces that brave every difficulty and storm, I feel that you are doing a work that no other is willing or can do. I am proud of my profession. I am glad that I have spent eighteen of the best years of my life teaching nurses.
>
> To be sure, there are many of our affairs in which the public is most directly and vitally concerned and which need our earnest and thoughtful attention. We need to apply unsparingly self-scrutiny.
>
> The discontent with graduate nurses in private households is wide and deep and constant, and we have a work before us to hold the confidence of the public, to find out what that trouble is and to remedy it. No profession ever rose to a high position more rapidly than ours. Much of the admiration accorded us has been richly deserved, and it would be a calamity indeed if we have through weakness or selfishness of any one of us, injured its fair fame.
>
> We need to keep in constant use our professional ethics. When the public says plainly that we fail to guard sacredly the private matters of the household we enter, but discuss them with subsequent patients and among ourselves; when it says that our system of payments makes practically a labor union; that no human distress or need is sufficient to make us ready either to alter our charges or to give freely something of our skill and knowledge; when it says loudly and repeatedly that we are extravagant in people's homes to the verge of dishonesty with every article in common use, there is certainly something wrong.

Equally encouraging and stimulating were the expressions of loyalty to their big State and of ambition for their profession, which were constantly brought out in the papers and discussions, and which more than neutralized the local and personal bias of a few individuals, and gave the Convention a strong trend toward unity. In urging the passage of a State Registration law, Miss McKnight, of San Antonio, the Treasurer of the Association, voiced this sentiment most acceptably in these words:

> Our material development during the last decade has outstripped that of all other States. We have come to the front as rice growers and sugar planters. We are ahead in the production of cotton and raising of cattle. Our salubrious climate attracts people from every land. In fact, we enjoy advantages too manifold to enumerate here, and we are but on the threshold of what we shall be.
>
> Being myself a daughter of the Lone Star State you will pardon my ambitious hope that we may ere long be able to say that we have the best training schools for nurses, the best organized nurses and the best law for the registration of nurses.
>
> The advantages accruing from State registration for nurses seem to be threefold: 1. Raising the standard of training schools. 2. Placing nursing on a professional basis. 3. Protection of the public.

This is the spirit that has achieved all the genuine advancement that has been won by any profession in any land. It is fortunate that the Texas nurses have this spirit in such good measure within the ranks of their State organization.

The proposed bill is printed in connection with the annual report.

THE BEST TONIC.

READ the inspiring and prophetic words of Miss Harriet Fulmer in this number of the GAZETTE. If you feel like dissenting from her doctrine then read her address again, *and again.*

Many nurses think they are helping their profession to advance if they merely do their part to save it from a bad reputation. But it takes the woman of high ideals and aggressive altruism, if we may use such an expression, to really ennoble her calling. When such a one turns aside from her manifold duties and devotes a little time to the inspiration of the young nurse it behooves all nurses to give good heed to her positive counsel and her bracing example.

CAN WE DRAW YOU OUT?

ARE you strongly inclined to assent to everything that you see in print, or are you a natural born dissenter, fond of argument and unsubdued by authors or editors?

You have read the GAZETTE more or less. What do you think of it, to be frank? Regarding the articles that have been most suggestive to you, are you inclined to be critical or otherwise?

We wish we knew. It would help us to make the journal useful in greater degree and to a greater number of readers.

Many read. Some read and think. But very few respond to what they read in such a way as to make their response of value to their fellow readers. The columns of most journals are open to discussion—even to controversy—but the number of those who enter the field is usually insignificant.

You thought—perhaps two months ago—that you would sit right down and tell us what was in your own mind after reading something of unusual interest to you. You *wanted* to say something to the GAZETTE readers.

But you didn't do it.

You may do so now, if you please.

THE ALBANY PLAN.

THE July number of the *National Hospital Record* devotes a generous space to the work of the visiting nurse in many parts of our own country and affords the reader a rare opportunity to learn of the various phases which this movement has assumed. It is truly enlightening. The *Record* in common with other expert authorities who have given much thought to the problem, sees in the visiting nurse a means of supplying the demands of the small wage earner for efficient home nursing at a minimum price.

Indeed, we are indebted to the associate editor for a plan which we published in a recent number of the GAZETTE, and which the *Record* now comments upon as follows:

> The plan in brief was this: A National Visiting Nurse Association, with plans for auxiliary societies in all parts of the country; each visiting nurse center to become also a center for training classes for attendants; the calls for attendants to come to the visiting nurse association; the attendant's work in all critical cases to be under the supervision of a visiting nurse, and the rate to be fixed by the association. This plan admits of indefinite expansion to meet the needs of rural districts and small towns and villages as well as cities. In all the discussion that has been given to the subject no more feasible plan has been proposed. It was therefore with sincere satisfaction that we learned that such a plan has been successfully carried out in Albany, N. Y., for several years. What has been done in one place can be done in another, and we ask that careful consideration be given to the description of the methods of the Albany Association contained elsewhere in this issue.

We wish that we had space in this issue to reprint the *Record's* exposition of the work of the Albany Guild for the Care of the Sick. We promise to give our readers in future an adequate account of the Guild and its achievements. For the present, we will only add another paragraph from the excellent comments of the *Record,* hoping that it will prompt the readers to investigate this matter on their own accounts. Let every one read and think.

> Such in brief is the plan that has been worked very successfully in Albany, and no better solution of the problem of supplying care to the patient of limited means has ever been proposed. Such methods, if generally adopted, would do more than anything else to combat the methods used by correspondence and short course schools who in endeavoring to meet the need for nurses in the homes of the small wage-earners are each year turning out hundreds of so-called "graduates" who pose as the genuine article, and in many cases ask the same rate of payment that is paid to the hospital trained nurse. Wherever visiting nursing is being carried on this system of training assistant nurses for continuous service in homes of people of limited means is possible, and the plan admits of expansion indefinitely as rapidly as new organizations can be formed. It is a legitimate way of meeting a great need, and it has already gone far beyond the stage of theory.

GRADUATE NURSES' ASSOCIATION OF TEXAS.

FIRST ANNUAL MEETING

THE Graduate Nurses' Association of Texas convened in their first annual meeting at the Shearn Methodist Chapel in Houston, June 3 and 4.

At 10 A.M., June 3, Dr. S. C. Red delivered an address of welcome. The annual address of the President, Miss J. S. Cottle, followed. The Secretary, Miss C. Van Doren, called the roll and read the minutes of the last meeting.

The Bill for State Registration was read by the Secretary. A lengthy discussion followed and a committee was appointed by the President to revise the bill and submit it for discussion at the next morning session.

An interesting paper, "How Can the Individual Nurse Make State Registration of Value," was read by Miss Mallett, of Austin. The meeting adjourned to the Rice Hotel, where a delightful luncheon was served.

At 3 P.M. the session was called to order. The report of the Treasurer, Miss McKnight, was read and accepted.

The rest of the session was devoted to a discussion of the bill. The question whether or not only nurses who are graduates of chartered training schools should be admitted was discussed.

The night session was called to order at 8 P.M. by the President. Rev. J. W. Moore, pastor of Shearn Methodist Church, gave a short talk on the profession of nursing the sick and paid the nurses a tribute for their sacrifices in doing good. Miss McKnight, of San Antonio, read an interesting article on the "Importance of State Registration for Nurses." Miss Cottle made a few remarks on "Nursing and Training."

The meeting was called to order again at 10 A.M., June 4, by Miss Cottle.

The Bill for Registration was revised, read, and accepted.

Miss Shackford, of Galveston, gave a short talk concerning the Galveston Nurses' Association. Miss Shackford was appointed to read an article, "What a Trained Nurse Is," at our next meeting.

The meeting adjourned to meet in San Antonio during the Battle of Flowers next April.

C. VAN DOREN, *Secretary.*

THE TEXAS REGISTRATION BILL.

AS PROPOSED.

A Bill for an act relating to professional nursing.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS.

Section I. That within sixty days after taking effect of this act the Governor of the State shall nominate a State Board of Nurse Examiners, to be composed of five members, selected from a list of ten members of the Graduate Nurse Association. Each of the members of said Board shall be a trained nurse of at least twenty-three (23) years of age, of good moral character, from a training school connected with a general hospital or sanitarium, presided over by a regular graduate nurse where two or three years' training with a systematic course of instructions, both practical and theoretical, is given in the wards. One of the members of the said Board shall be nominated by the Governor to hold office for one year, one for two years, one for three years, one for four years, and one for five years, and thereafter under the expiration of the term of office of the person so nominated the Governor shall appoint the successor to each person to hold office for five years, each of whom shall be a registered nurse under the provisions of this act and shall fulfill the requirements in this section set forth.

Section II. That the members of said Board shall, as soon as organized annually in the month of (date), elect from their members a president, and a secretary who shall be the treasurer. Three members of this Board shall constitute a quorum, and a special meeting of said Board shall be called by the Secretary upon the written request of any two members. The Board is authorized to make such by-laws and rules as shall be necessary to govern its proceedings and to carry into effect the provisions of this act. The Secretary shall be required to keep a record of all the meetings of said Board, including a register of the names of all nurses duly registered under this act, which shall at all reasonable times be open to public scrutiny, and said Board shall cause the prosecution of all persons violating any of the provisions of this act, and may incur necessary expenses on that behalf. That the President and Secretary shall make a biennial report to the Governor on the second Monday of December immediately preceding the convening of the Legislature.

Section III. That after (passage of bill) it shall be the duty of said Board to meet not less frequently than once every four (4) months, at such place as Board may determine; notice of which meeting shall be given to the *American Journal of Nursing*, the official organ of the State Nurse Association, one month previous to said meeting. At said meeting it shall be the duty of the Board to examine all applicants for registration under this act. Upon filing application for examination each applicant shall pay a registration fee of $10. The examination shall be of such a character as to determine the fitness of the applicant to practice professional nursing as contemplated by this act. If the result of the examination of any applicant shall be satisfactory to a majority of the Board, the Secretary shall, upon order of the Board, issue to the applicant a certificate to that effect, whereupon the person named in this certificate shall be declared duly qualified to practice professional nursing in this State. Any person from any other State who shall present to the Board a certificate of registration from their State may, upon the payment of $10 therefor, receive a certificate and be registered as a nurse of this State without examination.

Section IV. That all nurses who are engaged in nursing at the date of the passage of this act, who shall show to the satisfaction of said Board that they are graduates of training schools connected with a hospital or sanitarium giving two or more years of training with a systematic course of instructions, both practical and theoretical, and presided over by a graduate nurse, shall be entitled to registration without examination, provided such application be made to this Board before (date). It shall be unlawful after (date) for any person to practice nursing as a trained nurse, graduate, or registered nurse without a certificate from the State Board of Nurse Examiners. A nurse who has received his or her certificate according to the provisions of this act shall be styled and known as a "Registered Nurse." No other person shall assume such title or use the abbreviation "R. N." or any other letters to indicate that he or she is a trained, graduate or registered nurse.

Section V. That the State Board of Nurse Examiners shall have power to revoke any certificate issued in accordance with this act, by unanimous vote of all the members of said Board, for gross incompetency, dishonesty, habitual intemperance, or any act derogatory to the morals or standing of the profession of nursing as may be determined by the Board; but before any certificate shall be revoked the holder thereof shall be entitled to at least thirty days' notice in writing of the charges against him or her, and of the time and place of hearing and determining of such charges, at which time and place he or she shall be entitled to be heard. Upon the revocation of any certificate it shall be the duty of the Secretary of the Board to strike the name of the holder thereof from the roll of registered nurses.

Section VI. All fees received by the State Board of Nurse Examiners, and all fines collected under this act, shall be paid to the Treasurer of said Board, who shall place such money so received in a special fund, to be known as the fund of the State Board of Nurse Examiners, and shall pay the same out on vouchers issued and signed by the President and Secretary of said Board. All money so received may be used by the State Board of Nurse Examiners in defraying railroad expenses of Nurse Examiners to and from the place where examinations are held. In addition to this, $10 per diem shall be allowed as a remuneration to Examiners for time lost in carrying out this act.

Section VII. This act shall not be construed to affect or apply to the gratuitous nursing of the sick by friends or members of the family or any person nursing the sick for hire who does not in any way assume the practice as a trained, graduate or registered nurse.

Section VIII. That any person violating the provisions of this act, or who shall make false representations to said Board, in applying for certificate, shall be guilty of a misdemeanor, and, upon conviction, be punished by a fine of not more than three hundred ($300) dollars.

Section IX. The President and Secretary shall constitute a standing committee on finance. Other committees shall be appointed by the President as the Board sees need of them, the number of members on each committee to be determined by the Board.

Section X. The Board shall prepare questions for examinations. Applicants shall be examined on the following subjects: Practical nursing, Surgical nursing, Obstetrical nursing, Materia medica, Anatomy, Physiology, Hygiene, Dietetics, Gynecology.

Section XI. The Board shall adopt Roberts' Rules of Order to guide it in the transaction of business.

Section XII. A graduate trained nurse is one who has had two or three years' training, both practical and theoretical, in a general hospital, and is an aid to the physician and to the public in the time of illness both in the home and in time of famine or flood or calamity of any kind.

ADDRESS TO THE GRADUATING CLASS OF THE WOMAN'S HOSPITAL, CHICAGO, MAY, 1907.

By Harriet Fulmer,
Chicago.

To the Members of the Board, Ladies and Gentlemen, Miss Hume and my fellow nurses:

The glass house in which I live forbids me to *preach* to you. Your splendid school and its heads have left nothing for me to *teach* to you. So it leaves me only a few words in which to bid you welcome to the ranks of the graduate nurses of Illinois.

The mere mention of a class of young women graduating from a term in a hospital training school, calls to one's mind a group of people who have equipped themselves to serve truly their fellow men. The trained nurse is one of the greatest social factors of the time, and no matter how we may doubt this, she is proving herself equal to every task set her. In the homes of the rich and in the highways and byways she has made herself felt.

Nurses are no longer feeling about with the insecurity of an undefined position. It is a *profession* into which you are about to enter. The school you leave behind is an *educational institution* as much as any medical college in the land. We have come to believe in ourselves, and thus the great stumbling block of the last few years is removed.

Why is she a social factor? Because she uplifts and betters people and conditions wherever you find her. Just for the passing moment, can you think of any one who comes from her Alma Mater stronger and broader and with a greater field of usefulness stretching out before her than the nurse?

As a social factor your capacity is absolutely without limitations. The Juvenile Court wants trained nurses for its probation officers. Why? Because you are trained to look after physical defects, and physical defects add to delinquency. As tenement house inspectors, as health officers, as public school nurses, as teachers in the crusade against tuberculosis, as house to house nurses among the poor you have a wide field open to you. As Hospital Superintendents, as heads or teachers of training schools, as hourly nurses, you are ready to meet the demand. Is it not a bewildering and almost fascinating outlook for which this training has fitted you? And we must not forget the rank and file, the private duty nurse, in which rank your field of labor may also be useful. Fine women have gone before as your *pace makers*. You must set your feet at once to their pace. Wherever you are be consecrated—consecrated as men in high places with a definite thing to do are consecrated. You must have what President Eliot calls the "joy of work," "the joy of usefulness."

Trained nurses have gone beyond the missionary and Angel of Mercy stage. To be one no longer consists in wearing a becoming uniform and smoothing brows with a cool, white hand. Neither is the ability to read a clinical thermometer or give a typhoid bath a criterion. But a nurse must be a disciplined woman. She may find herself serving in the capacity of a cook, a plumber, a sanitary inspector, an engineer, anything that makes for the smooth running of the household in which for a time she is a part. With the right spirit and armed with such an equipment you will never belong to a class who are sitting down waiting for cases, and wondering why they are not called. You have your name and fame to make just as surely as any college graduate that ever started out. If you fail, do not blame your *training school*. It gave you wise counsel and opportunity for practical experience and theoretical knowledge. But it cannot force you to practice its precepts.

Leave out commercialism in your work. The last place for a commercial spirit, a dollars and cents atmosphere, is in the medical or nursing world. The public cannot pay doctors and nurses in dollars and cents, and if you have $5 a week or $25 a week you are NOT then rewarded an equivalent for all that you give.

When outlining your plans for the future go where you are most needed; you will be sure then to find "joy in your work." When building up your practice don't forget your duty to the great middle class, the ones who suffer more for lack of skilled care than even the very poor. In every nursing journal, every nurses' meeting, this subject is discussed. How shall the great middle class receive nursing care? So easily solved if every nurse pledged herself to alternate her skill between this class and the rich, just as physicians do! Some of these men could teach us humanitarianism. When you have a case at $25 a week for two months on the boulevard, let your next one be in the humbler home at $15. If you do not get back more than you give then you have missed your calling. Set the pace here and not a few will follow. What an enormous amount of workers we have to cover the ground—and all the papers and discussions in the world will not solve the problem until you set the ball rolling. This step must be taken by you, the graduates, young and fresh in the work; then later on, when midnight vigils by the bedside of the dying have worn you out, some other group of younger women will follow your example in the humble homes and give you the right you have earned—to seek less taxing cases.

It is not a far cry to hope that nurses some day will put our profession on the plane "when only the Master shall praise us and only the Master shall blame. When no one shall work for money and no one shall work for fame. But each for the joy of the working."

The force of example of this very class, mayhap, will so predominate that the altruistic spirit shall penetrate to every nurse in the profession. God speed you on your useful career.

DILIGENCE is the mother of good luck, and God gives all things to industry. Then plow deep while sluggards sleep and you shall have corn to sell and to keep.—*Ex.*

SANITORIUM NURSES.

By T. D. Crothers, M.D.,

Superintendent Walnut Lodge Hospital, Hartford, Ct.

It was observed that the graduate nurses of a certain quite prominent school were very impractical for sanitorium work. The school was an excellent one and the hospital connected was large and afforded great opportunities, but nearly every graduate came out with an offensive egotism and superiority of knowledge that was startling. On one occasion I visited this hospital and was told that one of the physicians was giving a lecture to the nurses. I was permitted to hear him and the reason for this condition was apparent. The lecturer, while a very able man, was so dogmatic and positive and withal critical, that his audience imbibed the notion that they were hearing the very last words of science and that anything beyond what he said was doubtful.

I made some inquiries about the other lecturers, who were average physicians, and found that they all had the same positive assertive manner in their statements to the students. Whether this was a reflection from the leader or an unconscious imitation of his style I cannot say, but the graduates went out with an egotistical confidence in their own learning and knowledge of the subject that in many cases was a great hindrance.

Such nurses would follow a routine laid down for them in fever cases or in other long continued degenerations with skill. But when called upon to adapt themselves to new conditions they were utter failures.

In the ordinary sanitorium acute inflammatory conditions are not common. Organic degenerations, both physical and psychical, are the prevailing troubles, and nurses are called on to discover and adapt themselves to these conditions which always vary in each person.

In my long experience with the care of spirit and drug neurotics, the conditions are so varied and complex that the nurse is never sure of the meaning of any one condition, but must constantly change and try to neutralize the symptoms which appear. Any preconceived idea of the exact state of the brain and nutrition must be put aside, because it will not be found to apply in the case in question. Thus, for instance, the periodic drinker at the onset or the acme and the decline of the paroxysm presents many varied conditions which require different grades of nursing. The drug takers in the various stages present very complex symptoms which often baffle the physician and strain his therapeutic resources, and the nurse who attempts a routine of care is soon out of touch. In a well recognized sanitorium where these cases are individualized the successful nurse must have remarkable skill in observing and comparing one condition with another, and be in close touch with the physician as clerk and adviser. Certain routine care may be irritating in the highest degree to one person and stimulating and helpful to another. One drug may have different effects on different persons. Hydropathic measures will vary with the person. A nurse will observe this first. Many of these persons will suddenly exhibit symptoms of diseases which in any other person would be very grave and serious, but in these cases the symptoms pass away by the use of the simplest remedies and sometimes without remedies. In all this there is a certain psychic training or capacity to see beyond the present symptoms, and if the nurse fails to possess this it is a serious bar to success in the future.

Nursing is something more than taking the pulse and temperature hourly, bathing the patient, changing the linen and adjusting the bandages or other appliances, or giving nourishment. It is appealing by word or appearance to the mind of the patient. Inspiring confidence and creating trust and hope, soothing irritations and dispelling the unpleasant thoughts. Of course this cannot all be taught in the schools, but the nurse should be instructed that the use of physical means and measures is a small part of the real treatment.

In the treatment of drinkers the nurse who has used spirits personally at any time in the past and is now an abstainer is literally unfitted for the task. His own personal experience destroys his power of good judgment. He is either too kind and sympathetic or else he is harsh and unreasonable. The patient may have had some experiences similar to his own and this will destroy his good judgment and leave him to cover up, assist and conceal the conditions present. If the symptoms differ from his own he will be harsh and unreasonable. An ignorant nurse with a little hard sense and disposition to learn does better work than one who has had experience and who has been addicted to spirits. Hence, reformed men or women should not be put into this service.

The nurse who is trained to know a little, and to feel the feebleness of that knowledge and with it a desire to learn more, is always the successful one. Among the drink and drug neurotics both men and women nurses have to be trained by actual experience. If they are thoughtful and receptive and are students, learning from observation, they soon become valuable, but if they fail in this particular they are often worthless and their previous training is a bar to them, because it has closed the door against their farther learning. An instance of the value of this qualification to be constantly learning is illustrated in the following:

A graduate nurse who ranked low in the school from which she graduated was taken to nurse an opium taker until a better nurse could be found. She was very observing and anxious to be advised in every little particular. As a result she became helpful and was retained and relied upon by the family. She eventually married the son of the patient, and at his death came into possession of a large estate and was ever after the master spirit of the family. Her success was due entirely to her willingness and anxiety to learn. She profited by each day's experience and did not have to learn the same thing twice. Another illustrative case was as follows:

A drug and drink taker who has an exalted conception of the value of nursing gave me an order to procure the very best trained nurse possible, regardless of expense. After a somewhat checkered experience with a large number of nurses who claimed to be at the head of the profession and all of whom failed, I found a young Scotchman, whose only experience was the care of an invalid father. He possessed rare tact, powers of observation, and a student's instinct to learn. As a result he became permanently attached to this man's household and has been able to keep his master from excesses, which no other person could do.

The good nurse in all sanitorium work must be supremely impressed with a student's instinct to learn and unlearn at the same time and be able to take advantage of circumstances. This, with average common sense, will make success in every instance.

Nurses, of all others, should be taught personal hygiene. I mean by this the importance of regular, exact care of themselves, both brain and body. The stronger they are the better work is done. Nurses' schools that fail to make prominent the personal hygienic questions of the care of the body cannot graduate good students.

The medical student, as well as the nurse, who is trained away from his student habits and his disposition to learn never succeeds. The possession of a little knowledge ought to stimulate greater anxiety to add to it, and sanitorium nurses who come in the capacity of students, and work as such, always succeed and are welcomed.

A GOOD story is told of Dr. Oliver Wendell Holmes. He had been called in by a mother to see a mentally afflicted child. Giving his opinion, he said that a consultation should have been held some time before. The mother replied that such had taken place; but Holmes said: "Ah, the consultation should have been held some fifty years ago!"—*Race Culture; or, Race Suicide?* ROBERT REID RENTOUL, M.D.

THE NURSING OF CHILDREN.

BY MISS MINNIE GOODNOW,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

(*Continued from page 496.*)

CARE DURING FIRST MONTH IN NORMAL CASES.

EXCRETIONS.

THE character, amount, and frequency of the normal excretions should be familiar to every nurse, and she should teach the mother to recognize anything wrong. The bowel movements should be bright yellow or orange in color, a soft and unformed mass; tiny white curds are not abnormal. A formed or pasty stool, one pale in color, or green, a watery stool or one containing blood, should be reported to the physician. If the bowels move well once a day it may be sufficient; and five or six movements a day, if they are normal in appearance, need not be cause of uneasiness.

The urine should be practically colorless and odorless, and the quantity considerable. If it is colored or scanty give large amounts of water to drink, and the matter will ordinarily right itself.

CONTROL OF EXCRETIONS.

Training in control of the bowels and bladder should begin in the latter part of the first month. The child may be placed on a small jar or bowl at frequent intervals —as often as once an hour at first. Twice a day a small soap or glycerine suppository may be used, or the simple insertion of an enema tip may be sufficient to start the rectal reflexes. This training seems a slow process, but the child learns after a time to associate the position on the jar with the reason for it. The trouble taken in these matters for the first few months is well repaid by the lack of trouble later; many instances can be cited where a child rarely had a soiled diaper after the age of three months, nor a wet one after six months.

MEDICINES.

Laxatives, even the simplest, should not be given without the advice of a physician. The same rule should be made for all other drugs and for all sorts of teas, or anything which is not food or water. The practice of dosing the baby, even with harmless remedies, often lays the foundation for future stomach and intestinal troubles.

ENEMATA.

A simple enema may be given on the nurse's own responsibility. Warm water given with a bulb syringe or a small catheter is usually sufficient. In case of diarrhœa nothing is better than a cold enema.

A convenient way of giving an enema is to place the child on a douche pan with a firm pillow under the head and shoulders. This saves much soiling of clothing, and is not uncomfortable for the child.

NURSING.

In the matter of feeding, no nurse can conscientiously advise anything but mother's milk. Lives have been lost by lack of firmness on this vital point. If, however, there are good and sufficient reasons for resorting to artificial feeding—reasons such as tuberculosis, general poor condition, extreme nervousness, uncontrollable temper, etc.—the advantages may be explained, and the mother made to feel that it is not necessarily a calamity. A nurse should heartily concur with the physician's advice in these matters and, if for any reason she cannot, she should certainly leave the case.

If the supply of milk is scanty about all that can be done is to feed the mother carefully, and have her take what exercise she can in the open air. Milk, liquid foods of all sorts, with plenty that is substantial but easy of digestion, are to be given. Alcoholic drinks or malt should not be suggested by the nurse.

It should be borne in mind that quantity does not necessarily imply quality, and that a child may be improperly nourished when the milk supply is ample. It is not out of place for a nurse to suggest this to her physician, in order that an examination of the milk may be made by a competent chemist.

Absolute regularity in nursing is to be insisted upon from the first, and nothing allowed to interfere. Every two hours from 5 or 6 A.M. till 9 or 10 P.M., with one night feeding about 1 P.M., is a convenient schedule. In exceptional cases, where the child is not doing well, night feedings may be kept up every two hours; but even the one feeding at night should be dispensed with as soon as possible. If a child is wakened regularly and made to nurse during the day, there will soon be no difficulty about its sleeping at night. If during the day a child cannot be wakened and made to nurse, that feeding may be omitted, but the next should not take place until the regular hour.

Both mother and nurse should be impressed with the importance of giving water between nursings, particularly if the child is awake and fretful.

FEEDING.

Artificial feeding is still a bone of contention among medical men, and a nurse can only be an unprejudiced observer. As a matter of fact, no one food will suit all infants, and that which is the best in theory may not be so in practice. Remember, however, that a child may sometimes thrive in spite of its food, not because of it. Under no circumstances should a nurse suggest any particular food. She is only to make careful observations and report conditions.

Whatever food is used it should be prepared with exactness and scrupulous cleanliness. A good eight-ounce measuring glass and a small cream dipper are about the only appliances needed, though a glass tube bent for a siphon may also be used. A large bottle or ten small ones will be needed for keeping the food. It is best to prepare the entire quantity for twenty-four hours at one time, place the exact amount for a feeding in each bottle, cork with absorbent cotton, and keep in the ice-chest. Insist upon the physician telling you just how he wishes the food prepared, and whether it is to be sterilized or not.

Complete sterilization has fallen into disuse. Pasteurization may be done by setting the bottles containing the food in a deep pan of water and keeping it at a proper temperature for the required length of time. In many instances not even this is done.

The kind of nursing bottle does not matter so much for a young baby. The straight bottle with a broad, flat nipple has evident advantages. If a narrow necked bottle is used try to obtain the very small nipples, as the ordinary type is much too large. For an older child any of the "anti-colic" bottles and nipples are good. The nursing bottles should be boiled daily. If washed with cool water immediately after being emptied there will be no difficulty about keeping them sweet. The nipples may be boiled every other day, washed thoroughly after use, and kept in a solution of boric acid. Frequent boiling ruins the rubber and makes the nipple collapse.

CARE IN FEEDING.

A child should not be left alone with its bottle until it is several months old and can be depended upon to eat properly. Otherwise it will eat too rapidly or too slowly, the food will become cold, or the required amount will not be taken. Either hold the bottle or the baby, or both. The mother, even while she is still in bed, can manage this, and it takes no more time or trouble than regular nursing would. If the baby eats too slowly it can be encouraged; if too rapidly, the bottle may be withdrawn for a minute at intervals; or absorbent cotton may be placed inside the nipple to check the flow of milk. A child tires of constant lying in a crib; if taken up and held during its feeding it soon learns the association of ideas and what is expected of it. It should be laid gently down immediately afterwards and not allowed to sleep while being held.

CRYING.

As a rule, a baby should not be allowed to cry. The crying should be promptly investigated and the cause removed. Inattention to real wants is one of the commonest causes of fretful children. A young baby almost never cries except from some discomfort, and it is the nurse's business to find out what the trouble is and remedy it. Allowing a child to "cry it out" is appropriate when one is certain that there is nothing really the matter, not otherwise. It seems at first very difficult to know why a baby cries, but it is surprising how a little study will help in this matter. In general, a continuous and persistent cry means hunger or some bodily discomfort, as a soiled napkin, the pressure of a pin, or wrinkled and twisted clothing. An intermittent scream, especially if accompanied by a drawing up of the legs, is usually indicative of colic. Any sharp, sudden cry is likely to be due to pain. A low whine indicates general poor condition. The cry which ceases when the child is taken up and begins upon its being laid down is the only one which may be disregarded.

It is undesirable to take a baby up every time it cries. Nearly every necessary attention may be given with the child lying in the crib. When it cries someone should go to it immediately, see if it is wet or uncomfortable in any way, note if it is near the time for feeding, if not try a drink of water or a change of position, or look for symptoms of colic. If after these attentions the crying persists sit down by the child's side, try the various things over again and note the effect or non-effect of each. Twenty minutes a day spent in careful study of a child and its ways will do more than hours of aimless labor.

GOING OUT OF DOORS.

In summer a baby may be taken out of doors when it is a week old, and if protected from strong light, heat and flies it may be allowed to sleep out during the day. In fall, spring and warm days of winter, if well wrapped, it may be taken out at the age of three weeks. The sooner the child becomes accustomed to outdoor air the better. Whenever the weather is mild even a very young baby may spend several hours a day in the open air.

VARIOUS MINOR MATTERS.

A large percentage of male infants are found to need cimcumcision or at least a stretching of the foreskin. The nurse should always ask the physician to examine the child with this in view. Most doctors prefer to perform the circumcision during the second week, though a few wait until three months. For this operation a few towels and small sponges, two basins of solution, some sterile oil or vaseline, and iodoform or plain gauze for a dressing are about all that is required.

It should be made an unvarying rule from the first that visitors shall not handle the baby, nor kiss it; and under no circumstances should the child be awakened for anything but feeding. At least 22 hours of sleep per day is needed for the first week and nearly 20 hours for some time after that. A child ought not to lie awake long at a time till it is a month old.

Special care must be given to the mouths of bottle babies, as thrush and like disorders start very readily; undue irritation is to be avoided but cleanliness secured.

Chafing is more or less common with babies who are not nursed and with those who are very fat. It is aggravated by the use of water for sponging; instead, wipe off with vaseline or zinc oxide ointment and anoint freely with the same substance.

Regurgitation of food is more or less frequent. It is not vomiting but the throwing off of an excess. It is always due to overfeeding or too rapid feeding, and is therefore easily remedied. In nursing infants the regulation period of twenty minutes may be shortened or interrupted.

In giving medicine to a young baby an ordinary spoon is not a success. In its place one may use a rubber nipple with a large hole in it; this may be placed in the child's mouth and the medicine poured into it. In this way every drop will be swallowed.

For hiccoughs try holding the child tightly about the diaphragm for a minute or two. If this does not stop the spasm a teaspoonful of cold water will almost invariably succeed.

As a saving of laundry it is a good plan to have a small hemmed square placed inside the diaper. This will catch most of the discharges and may be washed separately with little trouble.

A napkin which is only wet should be at once rinsed out in hot water, after which it may be dried and used again. This rinsing should never be omitted, as bad chafing may result.

(*To be continued.*)

MEDICAL CHARITIES IN NEW YORK CITY. III.*

(*Continued from page* 504.)

CONVALESCENTS.

The inadequacy of the provision for the proper care of the convalescent poor seems to be due in large measure to the mistaken assumption that, after the patient is discharged from a hospital, the home is the best place where he can be. Investigations of the conditions existing in many of the homes of the poor, made by those charitable agencies to whom the discharged patient is often referred, have revealed the need of provision beyond the hospital beds for such poor as live in unsanitary tenements, and for those who must either work or be given institutional care.

The lack of provision for convalescents has been supplied to a very limited extent. The hospital superintendents, the visiting nurses, the officers of dispensaries and charitable organizations, all speak of the need for convalescent sanatoriums. The crowded condition of the hospitals and the number of applicants suffering from acute diseases sometimes force the discharge of patients who are not cured, but who may not longer need the constant supervision of physician and nurse or the expensive equipment of the modern acute hospital. Indeed, the convalescent patient, while requiring the rest and nourishing food which the hospital can give, needs certain other things which

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*This is the third article condensed from the study by Miss Florence L. Lattimore in the *New York State Journal of Medicine.*—Ed.

are beyond its power. He needs in addition, the proper environment for his recuperation, the out-of-doors, which includes fresh air, sunshine, and pleasant diversion. In fact, it is being urged more and more insistently by physicians that sanatorium care should be given the convalescents. It is plain that all those factors which delay full recovery increase the number of readmissions to the hospitals and lead to overcrowding.

The hospital, with its expensive equipment, should, as all agree, be kept for acute cases which need its fulness of resource, but the convalescents who may be cared for simply and inexpensively with satisfactory results, should be moved from the general wards at the earliest desirable moment and placed in an environment better suited to their condition. This, however, cannot be done until the convalescent sanatorium is established. The convalescent homes do not, under the existing rules, fill this gap. The alternative is, that the patient must either be exposed to a relapse, with consequent readmission to the hospital, and perhaps forcing the discharge of another half-cured patient, or the hospital must continue to house him in an environment no longer suitable to his best physical welfare. There is a link missing between the hospitals and the convalescent homes which convalescent *hospitals*, having medical and surgical staffs, and accepting cases which do require modified hospital treatment, as regards medical attention, would supply.

It would seem self-evident that no acute hospital could properly confine its plant to the care of acute cases or even do its full duty to those recovering from depressing and devitalizing diseases, without making some arrangement for the suitable care of convalescent patients. The work of the poor is often so exacting that they are deprived of their earning power by comparatively slight disabilities,—disabilities which frequently would not interfere with the earning capacity of those who support themselves by brain work—and their recovery must be complete if they are to continue to be independent. If the mission of hospitals is to cure the sick, there would seem to be some responsibility upon these institutions to see that so long as a patient remains too ill to do his ordinary work because of a temporary disability, and has no home in which he can recover, he should be cared for in a suitable convalescent sanatorium in some way connected with the hospital. The bed in such an institution as the convalescent needs can be furnished for about half the cost of a similar bed in an acute hospital.

There are only three homes where convalescents were cared for in Manhattan and the Bronx, in 1903-4 and 1904-5: the Isabella Heimath, a large institution at 190th Street and Amsterdam Avenue, which contains about 170 beds for convalescent men and women, besides being a home for aged and indigent men and women, and a home for chronic invalids (vacancies in its convalescents' wards are rare); The New York Home for Convalescents, at East 118th Street, which has a capacity of twenty-one beds for women only, with an average of about six inmates; and the St. Andrew's Convalescent Hospital on East Seventeenth Street, which has thirty-five beds, also for women, which beds are usually full. Only those persons are eligible to these beds who do not need the constant attention of a nurse, and who are approved under the rules of the home by the admitting physicians. The patients are admitted free for a period of two weeks, after it has been determined that they are unable to pay for care elsewhere. At the end of that time their stay may be lengthened, if it be necessary. These homes refuse to receive patients who have wounds which require dressing, or any who need medical care. They exclude the consumptive, the cancerous, the paralyzed, and those whose infirmities might make them objectionable neighbors for the other inmates of the homes. In the winter of 1905, a factory girl living in a crowded lodging house had bronchitis from which the physician said she could not fully recover until she had proper rest and sufficient nourishment. An application was made for her at these three homes in succession, which revealed the fact that they could not receive her if she coughed at night as that would disturb the other patients. Medically, she was a suitable case for any of the convalescent homes, but was not ill enough to be received at an acute hospital.

Lebanon Hospital has a ward for the convalescent patients from the other wards of the hospital, and vacant beds may be occupied by outside convalescents who have no other place to go. The New York Hospital has provision for its convalescents at White Plains, New York. It is the only hospital in New York City which has such provision for convalescents. One hundred and thirty-seven men and women convalescents were sent to the cottages at White Plains in 1904-5. These patients were maintained for 1,885 days. There was no record which was available for the years of 1903-4.

The Montefiore Home sometimes receives convalescent patients, but its main object is to provide for invalids with chronic diseases.

As will be noticed, nowhere in Manhattan and The Bronx is sanatorium care provided for convalescents. The existing convalescent homes in these boroughs have a total capacity of but 226 beds, and these are not often full as the majority of the applicants are refused under the rules. The New York Home for Convalescents sends out cards to the hospitals, stating its purpose and the terms of admittance, and the St. Andrew's Convalescent Hospital sends a visitor to inform the various institutions through which convalescents might come, of the care provided by the hospital; but those in charge state that most of their applications come from patients who have heard of the homes from the nurses at the hospitals, from physicians, or have been sent by the charitable organizations.

The Henry Street Settlement has a home for convalescent women and children at Grand View on the Hudson, where about fourteen patients are cared for in winter and summer under the supervision of a trained nurse. There is the Presbyterian Rest at White Plains, for convalescent women; St. Eleanora's Home at Tuckahoe, New York; St. Elizabeth's Home for Convalescent Women at Spring Valley, New York, open all the year round; and various other organizations open homes in the summer for health-giving purposes.

In recognition of the further needs of convalescents the Solomon and Betty Loeb Convalescent Home was opened at East View, Westchester County, in July, 1906. It has pavilions for men, women and children, and is free to the needy, while those who can pay are charged a moderate sum. The average stay is to be about three weeks. This home will be open all the year.

The Board of Estimate and Apportionment appropriated, in April, 1905, $100,000 for a hospital of 100 beds for convalescents near Coney Island. At present the City has no provision for this class. There is a building in the Metropolitan Hospital group, on Blackwell's Island, known as the Convalescent Building, but the pressure upon the hospital has never permitted the use of this building for convalescents.

The work done for convalescents cannot be measured by institutional records, as accurately as the work for acutely and chronically sick persons. The Working Girls' Vacation Society, and other societies and clubs do a great deal of individual work in this line which is never made public. The winter care of the convalescents is a matter to which much attention is being directed and more provision promised.

CHRONIC INVALIDS.

The institutions for chronic invalids in Manhattan and The Bronx outnumber those for the care of convalescents, having 789 beds for such cases, exclusive of those in the Montefiore Home, which has 272 for chronic invalids and convalescent cases. The City has accommodations for about 280 incurables in the wards of the hospitals connected with the New York City Home for the Aged and Infirm. The largest institution for chronic cases, in the two boroughs under consideration, is the Home for Incurables in Fordham, a private subsidized institution of 300 beds which reserves one-third of them for "charity patients," that is, patients who are not themselves able to pay for the attention they receive. This institution has so long a waiting list of applicants that many hospital superintendents have ceased to inquire for vacancies. At the institution the number of applications is not made a matter of record.

Here again, if the number of applicants turned away could be given, with the kinds of diseases from which these applicants suffered, definite knowledge could be had as to the further provision needed by these persons.

The Montefiore Home receives many chronic cases, but the pressing needs of the convalescents have led to the reception of cases of this sort which were formerly refused. The House of the Holy Comforter, Free Church Home for Incurables (139th Street and Riverside Drive), for women and children, under the auspices of the Episcopal Church, but unsectarian in its charity, has a capacity for fifty inmates. The House of the Annunciation for Crippled and Incurable Children (West 142d Street), under the care of the Sisters of the Annunciation, has twenty beds. And there are two homes where destitute women with incurable cancer are nursed until death—The House of Calvary (on Perry Street) having thirty beds, and St. Rose's Free Home (on Cherry Street), with a capacity for nine inmates. The St. Rose's Free Home is under the Servants of Relief for Incurable Cancer, a sisterhood which maintains a much larger home for the cancerous poor of both sexes at the Rosary Hill Home, Hawthorne, New York. This home has a capacity for 100 patients. The average number of patients both in the St. Rose's Free Home and the Home at Rosary Hill is thirty-eight. These three homes for destitute incurable cancer patients report no overcrowding, although a City home where men could be received seems desirable.

In the year 1904-5, for which detailed statistics could not be gathered, a number of important changes took place in the hospitals of New York City. In The Bronx the bed capacity has been increased by the opening of the new St. Francis Hospital, with more than 400 beds, at 142d Street and St. Ann's Avenue, leaving the old hospital on 5th Street for chronic invalids and the aged, with fifty beds for emergency cases; the building of the new Fordham Hospital to accommodate 150 patients instead of the fifty-five which is the maximum it can care for in its present building at 190th Street and Aqueduct Avenue; Lebanon Hospital, at East 150th Street and Westchester Avenue, is soon to add about thirty beds, and the New Washington Heights Hospital, Broadway and 179th Street, expects to begin a new building with room for about seventy beds in a few months' time. A new Harlem Hospital at 136th Street and Lenox Avenue will soon be open with 150 beds instead of its present fifty-two, and the Greater Bellevue, one building of which is already started, will have a capacity of 2,000 beds. A New York Red Cross Hospital with a training school for Red Cross Sisters is nearing completion, with sixty or seventy beds, at 100th Street and Central Park West; and the Flower Hospital, New York Post-Graduate, Columbus, St. Gregory's, the Manhattan Eye, Ear and Throat Hospital, the Ophthalmic and Aural Hospital, the New York Infirmary for Women and Children, and practically all the other hospitals, have plans, near or remote, for extending their work.

(To be continued.)

SYSTEM OF STERILIZATION IN THE WOMAN'S HOSPITAL OF THE STATE OF NEW YORK.

Dr. Le Roy Broun contributes to the *New York Medical Journal* a well-illustrated article describing the new building of this hospital on Morningside Heights. Nurses will be interested in the following account of their system of sterilizing the materials used in surgical cases:

Some eight or ten years past it became evident that it was of great importance to centralize the preparation and sterilization of all surgical dressings and ligatures. Up to this time our custom was the same as then existed in all other hospitals, the operating room nurse of each operating room preparing and sterilizing her own dressings, while a member of the house staff or druggist sterilized the ligatures. Members of a house staff cannot get much accumulated experience in the preparation of ligatures, since their stay in the hospital is limited. Besides, the care of the patients should consume their time. Neither is it reasonable to expect much improvement from the druggist. To remedy these objectionable features the medical board of the Woman's Hospital instituted, some ten years ago, the following plan. A nurse of recognized ability and stability of character was employed to take entire charge of the preparation and sterilization of all dressings and ligatures used in the hospital. One member of the medical board (an assistant surgeon) is responsible for all methods of sterilization and their proper performance. The nurse in charge acts under the assistant surgeon appointed. She receives her assistance from the nurses in the training school who are assigned to the supply room for a certain time during their period of training. The assistant surgeon, made responsible, reports at intervals to the medical board and makes no changes unless with the approval of the surgeons. This method, since its adoption, has given perfect satisfaction. The responsibility rests upon one nurse. Nothing is allowed to leave the sterilizing room unless bearing her stamp and seal. If the seal is broken, the package is returned for resterilization before it is used. In some modified form, I believe that the majority of the hospitals are now using this method.

In connection with the sterilization of dressings I am certain that those doing such work have not in many instances been taught the importance of getting rid of all air from the sterilizing chamber before the sterilization is commenced. Koch and Wolffhügel demonstrated that it required one hour for dry heat at 150° to 165°C. to destroy spore life. Rubner showed that while 100 per cent. steam at 100°C. destroyed anthrax spores in one minute, a mixture of 60 per cent. steam and 40 per cent. air at 100°C. required thirty minutes to destroy the same spores. Dunham demonstrated by placing thermometers at different levels in the sterilizing chamber that air confined in the chamber at the time of letting in the steam caused marked difference in the temperature of different parts of the chamber, as, for instance, steam under pressure of 20 lbs. (122°C.) was admitted to the sterilizing chamber, in which confined air remained. The thermometer near the bottom after five minutes stood at 96.5°C.; at the end of thirty minutes it had reached only 104°C. The air was now let out through the air cock at the bottom of the chamber. The pressure had fallen to 10 lbs., yet the thermometer at the bottom had risen from 104°C. to 111.5°C. The pressure was now raised to 20 lbs., taking eight minutes, at the expiration of which time the thermometer at the bottom stood at 122°C.

We cannot by means of any ejector placed upon a sterilizer exhaust all of the air from the chamber. At best we can only get about ten inches of vacuum. The steam coming in at the top of the chamber will push the air ahead of it and out through the cock at the bottom of the sterilizer, if such is furnished. This cock should always be present, and nurses should be taught the necessity of seeing that all air is expelled before the timing of the sterilization is commenced. I do not, however, belittle the importance of the ejector spoken of, for it is of advantage in assisting the expelling of air and in furnishing dry sterilized dressings, a most important necessity.

My observations in different parts of the world have convinced me that the nearer the human race approaches the animals in eating and habits of life the more they are exempt from malignant disease and appendicitis.—Dr. Nicholas Senn.

HOLLAND GINGER.

Nosokomos, the Dutch nursing paper, still carries on a fiery correspondence between the brothers and sisters of its nursing world. A Sister, G. B., casts herself with more zeal than discretion into the strife, and abuses the brothers generally with great heartiness. One of her complaints is that she met a brother who had been a fellow nurse of hers working as a lift porter. She has asked many of her patients—all reply they prefer sisters to brothers to nurse them. A male nurse replies. He begins by saying that silence is a great virtue, and that it would have been better if Dr. Aletrino who started the discussion had remembered that fact, Dr. Aletrino being a partisan of the sisters. He states that more and more brothers are called for by the public, quotes Florence Nightingale in praise of male nurses, and makes a strong charge against the directors of hospitals who send "children of eighteen or nineteen to wait upon men." He also justifies himself by calling upon his readers to remember a pamphlet called "Under Cover of Charity," which seems to have been an unpleasant little publication. He assures Sister G. B. that "only out of chivalry" did her male patients tell her that they preferred a female to a male nurse to wait upon them, that there are "many youths, nice youths," training now in hospitals who have replaced the unsuitable men who were unequal to their tasks.

Two other sisters take up the cudgels—one defends the female nurses against the slights cast upon them—but desires to be just to the brothers: "where they are necessary, and they are necessary, they should be the sister's equals, be regarded as her male colleagues, and should be treated as such. But that is just the sister's difficulty, there are so few educated trained male nurses," and so on.

The other letter is even more interesting as it is by the sister of a male ward exclusively nursed by male nurses, who certainly does not find them less capable than female nurses; she praises them and again points out how necessary they are in male wards. She writes: " 'Tis a thousand pities that the brothers have severed themselves from the sisters in their association, but still greater pity is it that it had to be. The brothers are not thinking only of money; they ask for the same work as the sisters, the same rights. Let us leave the patient to decide whether he will be nursed by a man or a woman, but let us not say that a man cannot be as good a nurse as a woman."

She calls upon sisters and brothers to cease fighting, and to hold together and work together as good comrades. The correspondence, which is long and not yet finished, throws a curious sidelight on Dutch nursing conditions.—*British Journal of Nursing.*

MASSAGE BY UNQUALIFIED PERSONS.

The last meeting of the Vienna "Aerztekammer" (medical council) dealt with the question of regulating the practice of massage by other than medical men. Several cases of dangerous injuries, caused by such had been before the courts lately, and the moment was well chosen to bring the question up for discussion. The abuse of the title "masseur" is very frequent here, as all sorts of quacks, who profess to do "bloodless surgery" and the like, are apt to use the title of "masseur" in order to escape prosecution, and as it can be assumed without asking anybody, it forms a very good protection against unwelcome inquiries by the police. Therefore, the Vienna "Aerztekammer" resolved to present to the government a petition, stating the facts of the case, with suggestions how to better the present state of things. The following is the idea: Only such persons as have passed the ordinary training schools for nurses are to be allowed to apply massage and only under supervision of a medical man. The schools are to be conducted in such a way as to insure a proper knowledge of the chief chapters of anatomy and physiology, the elements and principles of massage, the taking of temperature, and all other things pertaining to the nursing of patients. The title of "masseur" is to be abolished and only the denomination "qualified nurse" to be allowed. In all hospitals, baths, health resorts, etc., where massage is employed on a large scale, a doctor must be present at least at the first sitting, to control the advisability or otherwise of the procedure. The resolution was adopted after a lengthy discussion, but it is difficult to see how such academic resolutions can counteract the effect of the misunderstanding on the part of the public.—*Vienna Letter, Journal of the American Medical Association.*

UP FROM SLAVERY TO THE NURSING RANKS.

The *American Missionary* tells this significant story of a young woman student at Talladega College.

Among the pupils in our grammar school a few years ago was a woman who was born in slavery, who was twice sold upon the block—once a babe in her mother's arms and once a lone, frightened child *two years after the Great Liberator had declared her and her race forever free.* For more than twenty years after the close of the war her home was with her master. In return for the hardest of manual labor (for she toiled in the fields at the heaviest of man's work) she received simply board and clothing.

She heard at last that there was a place where colored people might be educated, and discovered that she was not obliged to give her labor to her master; and then, although just twenty-five years of age, she resolved to have an education.

She left her home and hired herself out in order to earn money for the purpose so near her heart. With a little money, but completely broken in health, she finally came to Talladega. With indomitable perseverance, she entered school, undertaking at the same time to work for her board. Two or three weeks of school showed that her strength was completely exhausted. Friends who admired her perseverance and Christian character, found her a bed in a hospital where she received the medical treatment she so much needed. There and afterward, while patiently waiting for returning strength, her Christian fortitude and strength of character were nobly displayed.

Re-entering school with improving health, she added to her studies the course in nurse training, in which she proved to be an apt pupil. To-day she is following this vocation, with increasing skill and popularity, doing great good and making for herself a comfortable support.

A REMINDER OF THE "GOOD OLD TIMES."

At the 156th session of the Meath Hospital, Dublin, Sir Lambert Ormsby, in giving a brief historical sketch of the hospital from its foundation in March, 1753, gave some interesting information of the nursing department in days gone by. Nurses in this hospital, when I came here first, said Sir Lambert, were nothing more than handy women of the "Sairey Gamp" type. They never received any systematic training whatever. The medical nurse "Bridget" could neither read nor write, never wore a cap or apron, was attentive after her own light, and was the greatest favorite with the late Dr. William Stokes. Nurse Bolger on the surgical landing was a little fat old woman who on class morning when the clinical teacher was coming up the stairs, would meet him on the landing with a bundle of towels under her arm and exclaim: "Here comes the 'Surgent' and the 'Stugents.'" The accident nurse was a handy woman in her own way and did her best with the rough people who enter the casualty wards frequently drunk and disorderly, and she had a wonderful way of quelling such disturbance. We then had "Nurse Springer," the night nurse, who, in a critical juncture on the admission of a "disorderly drunk," was invaluable, and did more work by her voice and arms than half a dozen members of the metropolitan police. She could neither read nor write; but still she was a good old nurse of that day.—*British Journal of Nursing.*

THE UBIQUITOUS FLY.

Occasionally, even now, you will meet the mossback who claims that the housefly is a good thing because it is a scavenger and "purifies the air." Show him these plain sentences; they are not elegant but they are pertinent. They are printed in the *Florida Health Notes,* with "apologies to Eugene Field":

See the fly.

It has not always been a fly—it used to be a maggot.

The children of flies are maggots till they get grown, then they are flies.

Maggots live in manure and eat manure to grow up and be flies.

They'd rather be flies than maggots.

Flies eat manure, too.

But they eat a lot of other things that we wouldn't eat.

They eat the stuff a man coughs up when he has consumption.

That is what they go to the spittoon for.

Then the fly specks have the germs of consumption in them.

When flies come out of the spittoons they rub their forefeet together and then rub them on their head. That is the way they wash.

Nice clean flies.

Have one in your coffee?

Flies like open closets, because that is where they lunch.

But they will leave the privy any time to get in your mouth when taking your midday nap.

When you shoo them away from typhoid stools they get on baby's bottle.

Then we wonder how baby got typhoid fever.

Flies are opposed to sewers.

They think it is a trick to starve them out.

Then they have to live on such scrappings as they can get—the vomit of drunk men, sores on dogs and horses, and the cold meat in the pantry that is saved for supper.

Flies have one eternal enemy—the housewife.

What would she think if you were to screen your house and help her to get rid of them?

NEW YORK STATE NURSES' EXAMINATION.

The last examination occupied the forenoons of four days and as much of the afternoons as was necessary for the practical tests.

The questions submitted in the written examination are given below. Each paper was headed with the title and instructions which we print over the first paper. On the paper in Bacteriology the instructions were slightly varied, as shown below.

The practical examination, given in the afternoon, included the following points:

1. Bandaging.
2. Preparing and giving mustard foot bath.
3. Arranging a chair for a convalescent typhoid patient.
4. Preparing for hypodermic injection; sterilizing and filling syringe.
5. Oral examination—on giving of castor oil, treatment of persistent vomiting, etc.

University of the State of New York.

8th Nurses Examination.

ANATOMY AND PHYSIOLOGY.

Tuesday, June 25, 1907, a.m.

Answer 10 of the following questions. Each complete answer will receive 10 credits. Papers entitled to 75 or more credits will be accepted.

1 Define anatomy, physiology.

2 What are the divisions of the spinal column?

3 What are the vertebrae?

4 What is the periosteum?

5 Locate (1) the sacrum, (2) the scapula, (3) the clavicle.

6 What is respiration?

7 Into how many acts is respiration divided?

8 What is the trachea?

9 What is the pleura?

10 What is peristaltic movement?

11 What is the diaphragm?

12 Name the special senses.

13 Where are the sebaceous glands located?

14 Define secretion, excretion.

15 What membrane incloses the heart?

MEDICAL NURSING.

Tuesday, June 25, 1907, a.m.

1 Describe the procedure in saving and measuring urine voided in a given length of time.

2 Give *two* symptoms of intestinal hemorrhage in typhoid fever and state the nurse's duty in such an emergency till the arrival of the physician.

3 Should a nasal douche be cold or warm, acid or alkaline?

4 What is the objection to the use of bichlorid of mercury in the disinfection of linen clothing?

5 What objection may be offered to the use of chlorid of lime for disinfection of clothing?

6 Mention a nursing measure that may be used as a heart stimulant.

7 What should be the temperature of the water for a hot bath? In what cases should a hot bath be avoided?

8 What is a characteristic posture of a patient suffering from abdominal discomfort?

9 Distinguish the difference in the appearance of a hemorrhage from the stomach and a hemorrhage from the lungs.

10 Give immediate treatment of faintness.

11 What is the character of the vomitus when there is intestinal obstruction?

12 Mention *three* methods of applying heat to the abdomen.

13 Suppose that while you are nursing a case of acute Bright's disease, the physician becomes isolated at a distance and asks to have sent to him a concise, written, daily report; mention *five* points that should be specially noted in such a report.

14 In reference to the above case mention *two* emergencies either of which would make it imperative to send to the nearest physician for immediate medical assistance.

15 In either of the above emergencies what should be done by the nurse till the arrival of aid?

NURSING OF CHILDREN.

Wednesday, June 26, 1907, a.m.

1 What is artificial feeding?

2 Describe the proper care of bottles, utensils, etc., used in feeding a child.

3 How would you restrain a delirious child?

4 In what ways may a child with skin disease be restrained?

5 What is the rule for ascertaining the dose for a child?

6 How would you give a tub bath to a child without frightening the child?

7 How would you disinfect a room and utensils after a contagious illness?

8 How would you disinfect yourself and your patient after scarlet fever?

9 How would you care for intubation and tracheotomy tubes?

10 What is inhalation?

11 What would the nurse be expected to do for a child with ophthalmia?

12 How would you give food to a child after tracheotomy?

13 How would you syringe a child's ear?

14 What dangerous symptoms should the nurse watch for in cases of inflammatory diseases of the ear?

15 What is thrush? What would the nurse be expected to do for a child troubled with thrush?

OBSTETRIC NURSING.

For Female Nurses.

Wednesday, June 26, 1907, a.m.

1 Mention *three* complications of pregnancy.

2 Describe in full the nurse's care of a case of eclampsia.

3 When drying up the milk what care should the nurse give the breasts and what diet should she give the patient?

4 Mention *three* complications that may occur during labor.

5 How should an obstetric patient be prepared for an examination?

6 What diet should be given the puerpera during the first week?

7 By what would you be guided in making selection of a room and how would you prepare it for a confinement?

8 If ordered, how should you give a colonic flushing to an infant?

9 Mention some of the conditions of the child and of the mother, that would make it difficult for an infant to nurse.

10 Mention *three* complications of the puerperium.

11 When the breasts of an infant become enlarged what care should be given them?

12 Mention *three* of the disorders that may arise during the first weeks of an infant's life.

13 State the temperature of the water for an infant's bath. At what age should that temperature be lowered?

14 What are the symptoms of a deficient milk supply and what may the nurse do to increase the supply?

15 How long should the infant be allowed to nurse at each feeding?

GENITO-URINARY NURSING.

For Male Nurses.

Wednesday, June 26, 1907, a.m.

1 State how you would proceed to catheterize a patient and mention dangers to be avoided in so doing.

2 How should a catheter be sterilized and cared for?

3 How should the bladder be washed out?

4 State the normal amount of urine voided by an adult in 24 hours.

5 What is retention of urine?

6 How might retention of urine be relieved without the use of the catheter?

7 What is suppression of urine?

8 State the specific gravity of normal urine.

9 What is incontinence of urine?

10 What is epididymitis?

11 How should the parts be supported in a case of epididymitis?

12 In caring for a case of gonorrhea what precautions would you advise to prevent the spread of the infection?

13 How should an inunction be given?

14 What symptoms would you watch for when a patient is being treated with mercurials?

15 What is orchitis?

BACTERIOLOGY.

Thursday, June 27, 1907, a.m.

Answer 10 *of the following questions, using as few technical terms as possible, etc., etc.,*

1 What are microorganisms?

2 Mention the class of diseases caused by microorganisms?

3 Why is dirt a source of danger to human life and health?

4 Give the effect of *each* of the following on disease producing germs: heat, cold, sunlight.

5 In the ordinary laundry process, what is the important effect of boiling?

6 What precautions are necessary to prevent a person who is suffering from tuberculosis from giving the disease to others? Why?

7 In caring for a patient with an infectious disease, how should the nurse care for her own hands? Why?

8 At what temperature is water made safe for drinking in a community where there is danger of its having been polluted?

9 Mention *three* ways by which disease producing germs find entrance into the human body.

10 What are (1) parasites, (2) saprophytes?

11 Which kind of microorganisms is the more numerous, disease producing or nondisease producing?

12 Which is generally considered to be the better food for a child, clean milk or pasteurized milk?

13 In what *two* common articles of food do bacteria play an important part?

14 Why is formalin, besides being a germicide, specially valuable as a disinfectant?

15 Have the fumes of carbolic acid any value as a disinfectant?

SURGERY.

Thursday, June 27, 1907, a.m.

1 Describe the symptoms of shock without hemorrhage and outline the treatment that the nurse should give, if a physician is not within call, depending on such remedies as would ordinarily be found in a private house.

2 What is hysterectomy and how should a bed be prepared for a patient after this operation?

3 How would you sterilize all supplies and instruments to be used for an abdominal operation in a private house? Specify the things that would be needed and describe method in detail.

4 What is the object in raising the foot of the bed in shock or in case of abdominal hemorrhage?

5 Why is it undesirable to use bichlorid of mercury in the sterilization of instruments?

6 How would you prepare normal salt solution in a private house?

7 How would you control arterial hemorrhage below the knee?

8 Define aseptic, disinfectant.

9 What special precautions should be taken when a patient vomits while under the influence of ether?

10 Describe the preparation of the field of operation for an abdominal incision and give the reasons for this preparation.

11 How would you control capillary hemorrhage from a wound on the chest?

12 How would you change the mattress under a patient three days after an abdominal operation?

13 What is a fracture?

14 How would you cleanse a rubber sheet that had been soiled by discharges from a wound?

15 Why is a punctured wound more likely to be serious than an incised one made with a sharp instrument?

MATERIA MEDICA.

Friday, June 28, 1907, a.m.

1 In case an overdose of morphin has been given, what should the nurse do while awaiting the arrival of the physician?

2 What is a safe dose of morphin?

3 Of a solution of strychnin sulfate gr. ii to ℥i, how many minims would represent gr. 1-50—gr. 1-400?

4 Define counter-irritants, antiphlogistics, diaphoretics, antidotes. Give an example of each.

5 How would you administer a dose of oleum ricini to (1) an adult, (2) an infant?

6 What is a sinapism and how would you prepare it?

7 Before applying cantharides what precautions should you take, how long would you leave the application on and how would you dress the part after its removal?

8 Of a stock solution of lysol 100%, how much would you take to make a quart of a 2% solution?

9 What are the first symptoms of an overdose of arsenic?

10 What is the emergency treatment in belladonna poisoning?

11 What are the mildest evidences of an overdose of mercury?

12 Write the table of (1) apothecaries' weight. (2) apothecaries' measure.

13 What is the dosage of (1) a tincture, (2) a fluid extract, (3) an infusion?

14 Name *three* easily procured emetics.

15 State what is contained in each of the two papers of a Seidlitz powder. How should they be prepared and how administered?

DIET COOKING.

Friday, June 28, 1907, a.m.

1 Mention *five* important things to be considered in feeding the sick.

2 How may milk be contaminated?

3 Mention *four* advantages of milk as a food.

4 In what way does skim milk differ from whole milk?

5 Give recipe for creamed sweetbread.

6 How should a potato be baked?

7 Give recipe for cornstarch pudding requiring one and one-half tablespoons cornstarch.

8 State the composition, digestibility, food value and use of ice cream for invalids.

9 Give recipe for preparing barley water for an adult, requiring two tablespoons barley.

10 Give *two* examples each of white fish, oily fish and shell fish which may be considered in invalid cookery.

11 Why are vegetables valuable and necessary as food?

12 How would you feed a helpless patient?

13 Give the general rules for feeding a typhoid patient.

14 Outline a course of feeding for a patient who has ulcer of the stomach.

15 Outline a *dinner* for a child from 12 to 16 months old.

CORRESPONDENCE.

HOSPITALS IN CALIFORNIA.

Editor of the Gazette:

The hospitals of San Francisco and Oakland could not accommodate the patients before the earthquake and fire. At that time there were quite a number in course of construction in both cities, but following the fire the conditions were such that building was delayed for months, and now, at the end of a year, there are few completed and few new ones being built.

Many of the old hospitals and sanatoria which were slightly damaged by the earthquake have been repaired and additions made, so that they are in a much better condition for work. But so many hospitals were destroyed by fire that the conditions at the present time are very unsatisfactory on account of lack of room, for many of the hospitals are, for the present, domiciled in flats and private houses, where they have to contend not only with inconveniences, but with bad sanitary conditions. Yet every place seems filled and overflowing, and still they come.

The State of California is like a great health resort. The people that are not going to the hospitals and sanatoria for the "cure" are going to the mountains or valleys or springs or the seashore. Every little country town has some specific cure, either in climate or springs, and about every other large farmhouse is a health resort. I never saw so many healthy-looking invalids—a great restless moving throng of people going North, South, East and West, hunting for something greater than wealth—something many spend their lifetime seeking and never find.

I have been from the northern State line to Los Angeles. In the valleys, on the coast, in the Santa Cruz mountains and in the high Sierras—it is the same condition everywhere. The climatic conditions vary greatly with the locality and season. They are ideal in a great many places in California. The mineral springs are numerous and the scenery is magnificent. What better combination could any one desire?

I spent one summer in the high Sierras, at Lake Tahoe, in an altitude of over six thousand feet. The spicy odor of the pine forests, the sparkling mineral waters, the bright, clear days and starry nights, the magnificent scenery, with the beautiful lake surrounded by snow-capped mountains, all combined made a condition where it was a joy to live, and we sincerely regretted when the cold weather sent us to the valleys and the coast.

The small hospitals or sanatoria flourish on the Western coast, especially in California, largely owing to the climatic conditions. These hospitals can accommodate from eight up to thirty, sixty or one hundred patients. Many of them are located in the country near large cities, or in small country towns and are controlled by a physician or a business man in some distant city. Some of them make a specialty of a certain kind of work—surgery or medicine, nervous diseases or rest cure—engage graduate nurses and do very good work. But the greater number have a "training school" (so-called), where most of the pupil's time is spent in doing housemaid's work and the other training is far below the professional standard.

These hospitals are run strictly on a mercenary basis. There is no professional standard, and they are a disgrace to the name hospital. They are conducted in flats, private houses, old lodging houses, where the ventilation, light and sanitary conditions are deplorable; having no heat but detachable gas stoves which are placed in the rooms when needed and, as there is a great deal of chilly weather along the coast, they are often needed.

Most of the hospitals have adopted a three years' course in their training schools. Some have two and a half years. We can hardly feel that a nurse is up to the standard in her profession if her training school makes a specialty of one or two things and others are entirely omitted. Yet such is the training in many of these hospitals.

But we do not despair, for we have some very good private hospitals with excellent training schools. While these are in the minority just now, we have every reason to believe that the hospitals in the near future will be a great improvement on those of the present time.

Very sincerely,
Jean Duncan, *Graduate Nurse.*
———, *California, July 4, 1907.*

Flour Ball.

Editor of the Gazette:

In one of your recent numbers among the questions in the N. Y. Examination of Nurses was this: "How would you make a flour ball?"

Can you tell us where we can get an answer?

Sincerely, S.

St. Francis' Hospital, Hartford, Conn.

Miss Pattee's "Practical Dietetics" gives these directions:

"Tie a quarter of a pound of wheat flour in a thick cloth, and boil it in one quart of water for three hours; remove the cloth and expose the flour to the air, or heat until it is hard. Grate from it when wanted one tablespoonful, put into half a pint of new milk, and stir over the fire until it comes to a boil; add a pinch of salt and a tablespoon of cold water, and serve."

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

The "Best."—The best natural disinfectant, sunshine; best germ disinfectant, formaldehyde; best physical disinfectant, soap; best moral disinfectant, publicity.—*Ex.*

Get the Old People Out.—Old people should be allowed to sit up or get out of bed as soon after operation as possible in order to avoid post-operative lung complications.—*Amer. Jour. Surgery.*

An Extemporized Bed-Cradle.—A barrel cut in two on its long axis makes an excellent holder for bed-clothes in acute affections of the lower extremities. Not only does it avoid the heavy pressure of the coverings, but it diminishes the chances of discomfort caused by jarring of the bed.—*Amer. Jour. Surgery.*

To "Break" Hard Water.—An Oklahoma physician sends this question to the *Journal of the American Medical Association.* The reply will interest many nurses in many parts of the country: I practice in a region where the water is loaded with gypsum and its use for lavatory purposes is open to serious objection. My hands are continually unfit for surgery. On account of the unsightly fissures about the nails, I cannot disinfect them. What can be done to this wretched plaster-of-Paris solution to render it "bath worthy"? Please do not say use rain water, for often it does not rain here for months.

Answer.—If the hardness of the water is due to carbonates of lime or magnesia (temporary hardness), the addition of lime (CaH_2O_2) will precipitate the troublesome ingredients. If, however, as you intimate, the hardness is caused by sulphates (permanent hardness), sodium carbonates (Na_2Co_3) may be employed. In some degree the treatment of each individual water is a problem by itself, but it is probable that by a little experimentation with varying quantities of lime and soda, you can largely improve the character of the water.

Disinfection, General Rules and Technic.—The following directions are taken from the rules formulated for the "Hospital for Scarlet Fever and Diphtheria Patients" in New York. They are printed, together with much valuable information on the care of hospital cases, in the *New York Medical Journal:*

General Rules for Disinfection.—Rooms must be disinfected as soon as vacated.

The discharge room must be disinfected each time it is used.

Sputum, stools, and urine must be disinfected with a solution of chlorinated lime, 4 ounces to a gallon of water, and sputum cups when in use must contain a solution of lysol, 0.75 per cent.

Letters are sent to the small steam sterilizer daily at 10 A.M. They must be stamped and addressed, but must not be sealed.

Letters which are sealed are opened and held until the following day for disinfection. (For this purpose they are exposed to steam at a temperature of 220° F. for twenty minutes, after which they are dried in a vacuum.)

Clothing and other belongings must be disinfected with formaldehyde as soon as patients are admitted to the hospital.

Preparatory to discharge all wash goods, including bath robes, blankets, and all garments worn next to the skin are placed in the large or small steam sterilizer for one-half hour. Other clothing must be taken to the formaldehyde chamber the day before the patient is discharged, and requires twelve hours' disinfection.

The nurse who takes down the clothing must see that the door of the disinfecting chamber is locked and the key returned to the office and must then notify the man who has charge of the formaldehyde regenerator. Each article must be shaken out and hung up separately. Pockets must be turned inside out. Bags, pocketbooks, and card cases must be emptied of their contents and left open, and gloves must be turned inside out. Shoes and overshoes are disinfected with formaldehyde. It should be remembered that gloves, shoes, and all articles made of leather or rubber will be ruined by attempting to disinfect them with steam. Furs require twenty-four hours' disinfection with formaldehyde.

All papers must be opened and separated and disinfected with steam.

Books, magazines, toys, and pillows must not be taken from the pavilion.

Money must be disinfected by immersion in bichloride solution, 1 to 2,000, or carbolic acid solution, 1 to 20, and must be delivered personally by the nurse to the matron or resident physician.

Watches and jewelry are to be disinfected only after obtaining special instructions in each case.

Toilet articles must be immersed in bichloride solution, 1 to 2,000, for one hour, or if they have metal trimmings, in carbolic acid solution, 1 to 20.

Bottles which have been opened must not be taken away. If unopened, they may be immersed in bichloride solution, 1 to 2,000, for twenty minutes.

For steam disinfection, the hospital supplies two steam sterilizers. One of them corresponds in all details with the sterilizers used in the general hospitals for sterilizing surgical dressings. The other is built on the same principle, but is large enough to hold mattresses or articles of furniture which it may be necessary to disinfect.

For formaldehyde disinfection there are two rooms with double walls thickly padded, each having an air space of 200 cubic feet. There are rows of hooks on the ceilings so arranged that articles of clothing suspended from them are exposed on all sides to the fumes of the formaldehyde. Eighteen ounces of formaldehyde solution is used for each disinfection.

There are several ways in which money may be disinfected. The process of dipping in some antiseptic solution and drying between blotters is simple and makes it possible to transfer it directly from the nurse to the resident physician. Watches can be disinfected with formaldehyde, also all articles of jewelry. The question of a safe method of disinfecting pearls often arises, as they are so easily darkened. My experience has been that they may be safely exposed to the formaldehyde gas or wiped off with pure carbolic acid. They are injured by the fumes of burning sulphur, bichloride solution, or an aqueous solution of carbolic acid.

Rules for the Disinfection of Patients.—All adult patients on the day of discharge must be disinfected as follows (for children obtain special instructions in each case):

Irrigate ears with bichloride solution, 1 to 8,000.

Shampoo scalp with soap and water.

Shampoo scalp with bichloride solution, 1 to 2,000.

Tub bath, soap and water.

Sponge bath, bichloride solution, 1 to 2,000.

Sponge or shower bath, plain water.

Nasal spray, bichloride solution, 1 to 8,000.

Mouth wash, saturated solution of boric acid.

Beginning several days before the probable day of discharge, the scalp is shampooed and the ears are irrigated on alternate days.

A suite of three communicating rooms is conveniently arranged for discharging the patients. The first room is entered from the corridor and here the hospital clothing is left. In the second room the disinfecting baths are given. In the third room the patient puts on his freshly disinfected clothing and leaves the hospital by a special exit.

The resident physician before entering the pavilion at each visit is required to wash his hands thoroughly with soap and water and then to immerse them in bichloride solution, 1 to 2,000. He wears a gown which buttons closely around the neck, covering the collar and enveloping the body completely. He also wears a cap and rubber overshoes. Upon leaving the pavilion he disinfects his hands and face and uses a mouth wash of boric acid solution. The attending physicians, whether of the regular hospital staff or specially employed by the patient, follow the same routine, which is likewise required of all visitors. Ladies, if admitted at all, must remove the dress skirt before putting on the uniform.

Book Reviews.

Foods and Their Adulteration, Origin, Manufacture and Composition of Food Products; Descriptions of Common Adulterations, Food Standards, and National Food Laws and Regulations. By Harvey W. Wiley, M.D., Ph.D. With eleven colored plates and eighty-six other illustrations. Philadelphia, P. Blakiston's Son & Co., 1907.

Dr. Wiley in his preface to this exhaustive work on foods, natural and manufactured and their adulteration, states that his aim is to give a thorough and intelligible account regarding methods of preparation and manufacture, together with food values, standards of purity, regulations for inspection, simple tests for adulteration, effects of storage and similar subjects of interest to the consumer as well as to the manufacturer, the scientific and the general reader. It would seem that he had entirely succeeded, for no other work has so exhaustively considered the subject, nor was there a more opportune time for a work of this character than now. The book contains some 650 pages, including a copious index, is printed on excellent paper and well bound. The illustrations are exceptionally good and the work should meet with a generous reception by the medical man as well as manufacturers and consumers.

Lateral Curvature of the Spine and Round Shoulders. By Robert W. Lovett, M.D., Associate Surgeon to the Children's Hospital, Boston; Surgeon to the Infants Hospital; Instructor in Orthopedic Surgery, Harvard Medical School, etc. With 154 illustrations. Philadelphia, P. Blakiston's Son & Co., 1907.

This should form a very valuable book on orthopedic surgery not alone to the specialist, but the general practitioner. While the book is restricted to the consideration of but a part of orthopedic surgery, that part is of such value to the surgeon and physician that its study should generally repay those who make its acquaintance. The chapter on diagnosis, while brief, is yet so illuminating that it alone is worth the price of the book. It is the diagnosis of scoliosis that disturbs the general practitioner, and the failure to determine it that works such disaster to the child.

A Manual of Personal Hygiene: Proper Living Upon a Physiologic Basis. By Eminent Specialists. Edited by Walter L. Pyle, M.D., Assistant Surgeon to the Will's Eye Hospital, Philadelphia. Third Revised Edition. 12mo of 451 pages, illustrated. Philadelphia and London, W. B. Saunders Company, 1907.

This is a very meritorious work, and will without doubt prove of great value to the medical man as well as to the student. It contains contributions from authoritative sources, such as Domestic Hygiene, by D. H. Blogey; Hygiene of the Brain and Nervous System, by J. W. Courtney; Hygiene of the Skin, by Geo. Howard Fox; Hygiene of the Vocal and Respiratory Apparatus, by E. Fletcher Ingalls; Hygiene of the Eye, by Walter L. Pyle; Hygiene of the Ear, by B. Alexander Randall; Physical Exercise, by G. N. Stewart, and Hygiene of the Digestive Apparatus, by Charles G. Stockton. This is a notable array of names and subjects. We are delighted with the work and cannot too highly recommend it.

A Practitioner's Handbook of Materia Medica and Therapeutics, Based upon Established Physiological Actions and the Indications in Small Doses. By Thomas S. Blair, M.D., Member American Medical Association, Pennsylvania State Society, etc. The Medicaal Council, Publishers, Philadelphia.

This book will prove interesting to a small class of practitioners. It is brief, treats mostly of the older remedies, and is a plea for smaller dosage than usually given in more complete works on materia medica and therapeutics, of which there are many of recent issue.

A Primer of Psychology and Mental Disease. For use in Training Schools for Attendants and Nurses and in Medical Classes, and as a Ready Reference for the Practitioner. By C. B. Burr, M.D., Medical Director of Oak Grove Hospital (Flint, Mich.) for Mental and Nervous Diseases; Formerly Medical Superintendent of the Eastern Michigan Asylum; Member of the American Medico-Psychological Association; of the American Medical Association; Foreign Associate Member Société Medico-Psychologique of Paris, etc. Third Edition. Thoroughly revised, with illustrations. Pages viii-183, 12mo. Bound in extra vellum cloth, $1.25 net. F. A. Davis Company, publishers, 1914-16 Cherry Street, Philadelphia.

This little book is evidently the work of a practical man who knows how to make his experiences useful to others.

It is in four parts. The first quarter of the book is a treatise on normal psychology, with frequent references to mental disease. It is necessarily brief, and leaves much to be desired. Part II. describes the various forms of insanity, in accordance with the classification of Kraepelin and Diefendorf. For the sake of brevity the "pathological groundwork of insane conditions" receives but slight attention. Symptoms and treatment are fairly well summarized. Part III. is a most useful guide to the medical treatment and management of the insane. It deals with all the methods commonly employed by the psychiatrist.

The last part is addressed to nurses, and is filled with practical directions and good counsel adapted to the nursing of all forms of insanity. It imparts, as well as one small book can impart, those qualities and precepts that make a nurse "judicious, level-headed, quiet, unobtrusive" and tactful in controlling patients of unsound minds. Every nurse, however experienced in this specialty, will find this book a gratifying source of sympathy, encouragement and improved technique. The book should be read by general nurses as an aid in caring for those cases that, while not insane, are victims of excitement and disturbed mentality.

A TEXT-BOOK OF MATERIA MEDICA FOR NURSES. Including Therapeutics and Toxicology. By George P. Paul, M.D., Assistant Visiting Physician and Adjunct Radiographer to the Samaritan Hospital, Troy, N. Y. 12mo of 240 pages. 1907. Cloth, $1.50 net. W. B. Saunders Company, Philadelphia and London.

The author assures us in his preface "that he has been very painstaking" in order to make "a concise, accurate and practical" book for nurses. We can well believe him. It is no easy matter to select judiciously from the thousands of drugs and remedies the few score that the nurse needs to know, and to give just that information which she is likely to require concerning them. If Dr. Paul has committed any error in this task, we are inclined to think it is the result of over-doing rather than slighting his work. Indeed, there are many facts carefully stated and classified—especially in Part II. of this book—which the nurse can well afford to do without. This consideration does not, however, lessen the utility of the book for purposes of reference, for which purposes, we presume, it will be chiefly used. As a *text book* it is quite out of the reach of most minds; as a reference book it is more than satisfactory.

Two features commend themselves particularly to the nurse. Under the description of most of the drugs a paragraph is devoted to the "Pretoxic Signs," that is, the signs which show when the drug is beginning to exert its poisonous action on the patient. If nurses, as a class, were taught to look for these signs and recognize them when present, the lives of their patients would be safer in their keeping. Another valuable, though brief, section of the book is Part V., describing practical therapeutic measures and procedures exclusive of medication. There are several useful tables at the end of the volume.

The book is well gotten up, and accurate in most of its details. We believe it would be better to include a few of the mixtures and other combinations of drugs with which the nurse has most to do, and for which she will look here in vain.

Two errors have come to our notice which will doubtless be corrected in the next edition. The definition of *picratol* is inaccurate and a few decimal points are very much needed on the first page (only) of the table entitled "Strength of Drug Preparations."

MANUAL OF PSYCHIATRY. By J. Rogues de Fursac, M.D., formerly Chief of Clinic at the Medical Faculty of Paris. Authorized translation from the French by A. J. Rosanoff, M.D., Junior Assistant Physician, Long Island State Hospital, Kings Park, N. Y. Large 12mo, xii+352 pages. Edited by Joseph Collins, M.D., Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School, etc. First edition. New York, John Wiley & Sons. 1905.

The arrangement of the material in this book is very conducive to brevity and conciseness. Part I., General Psychiatry, defines and describes the most important elementary psychic disturbances, and thus prepares the student to study intelligently and to understand the individual psychoses which are treated—with very little repetition of definitions and details—in Part II., Special Psychiatry. Kraepelin's classification is followed, with a few significant modifications.

The makers of this American edition are to be commended for their precision and for the excellence of the English, which presents but few blemishes.

The author has done his part with such admirable system and with such a correct sense of proportion that his book will be sought and read even by those who have access to the larger treatises on the psychoses. The student will find this an excellent book to begin with, and the general practitioner will read it in preference to some of the standard volumes which are too prolix for everyday use.

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THE

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SOME NATURAL CONDITIONS THAT DETERMINE QUESTIONS OF QUANTITY AND QUALITY IN DIET.

By Alexander Haig, M.A. and M.D. Oxon.

London, England.

In spite of all that has been said matters of quantity and quality are still by far the most frequent sources of error in the selection and practice of a natural diet, and I feel that no apology is required for returning again and again to these subjects.

The more important of these is quantity—the quantity possible in the individual case — and quality, as we shall see, is often dependent on this.

The grains, cereals or breadstuffs are the staple foods of the peoples that live most nearly on a natural diet (*i.e.*, one suited to the teeth and structure of man) who are still the great majority of mankind.

The cereal foods or breadstuffs as I shall call them, are roughly 8 per cent. foods (*i.e.*, contain 8 per cent. of albumen or 34 grains in an ounce).

An adult may also roughly be said to require 9 grains of albumen for each pound of body weight (bone and muscle, *not fat*) per day. Therefore 1 oz. of breadstuff will nourish about 4 lbs. of body weight for 24 hours.

This is the problem of quantity in its simplest terms and a man of 140 lbs. will want say 35 oz. of breadstuffs per day. Now, 2 lbs. 3 oz. of breadstuffs present no insuperable difficulty to those nations of the east, that now live so largely on such foods. Many of them take quite as much or more with some oil or butter and a handful of vegetables, such as we should call salad, as their entire diet; and this varies only very slightly with the things in season.

It is a remarkable fact that the peoples that live on these foods seem to require but little variety. It is the unnatural feeders who require change.

Other nations again add onto their breadstuffs various quantities of milk, cheese, eggs and pulses (peas, beans and lentils), the two last (eggs and pulses) being in my opinion generally unnecessary and harmful as containing xanthin or uric acid.

These eastern nations produce very fine people, in fact, the best that the human race can show; but those of them who have to add much pulse onto their breadstuffs are not such good specimens and suffer from more diseases than those more entirely supported on breadstuffs, milk and cheese.

Yet still more unfavorable in all respects is the condition of those who from choice or necessity have added on to their breadstuffs large quantities of eggs, fish and meat till, like many of the western nations, they come to live almost entirely on these animal foods and neglect, to a corresponding extent, their more natural breadstuffs.

In making this statement it must not be forgotten that breadstuffs are cheap and flesh foods expensive, and that it is only among the rich nations *and the rich of each nation* that flesh foods form almost the entire source of nourishment.

The problem is further complicated by the fact that many nations, and portions of nations whose diet is chiefly breadstuffs on account of poverty, have of late years obtained large quantities of xanthin from substances containing no nourishment, *e.g.*, tea.

Thus all the evils of wrong diet are not due to flesh foods, but partly to the poisons which flesh foods have served to introduce.

Flesh food is a stimulant, and once the habit of stimulation is started other stimulants are soon called in.

Now, flesh foods contain from 18 to 20 per cent. of albumen, and if for our present purpose we take 16 per cent. as their quantity it is obvious that 1 lb. of flesh will replace 2 lbs. of breadstuffs; in other words, a flesh diet is half the bulk of one composed of breadstuffs.

Here then is the chief difficulty of western nations, or rather of their richer peoples who, being accustomed to 1 lb. of food, cannot very easily return to the diet of less luxurious times and take at least 2 lbs. per day.

The people who are in this difficulty do not make the best of it; in only too many cases they make no attempt to do so.

In place of slowly increasing these breadstuffs and slowly diminishing their flesh foods to a corresponding extent (a course in which there is no danger) they, as a rule, neglect nourishment values entirely, and replace their 16 to 20 per cent. meats by vegetables and fruits containing only 5 to 2 per cent.

Now, vegetables and fruits to sustain life must obviously be eaten by the stone instead of by the pound, and these people are attempting the impossible.

We have seen that the nations that do well on a natural diet sustain life chiefly on breadstuffs, milk and cheese and, with one or two exceptions I shall mention, get but little of their nourishment from vegetables and fruits.

Some peoples favored by climate do take an appreciable quantity of such fruits as figs, dates and bananas, and if we put these at 3 per cent. of albumen it is clear that a pound of them would replace 5 or 6 oz. of breadstuffs, and those that eat 2 or 3 lbs. of such fruit will only require 1 lb. of breadstuffs per day in place of 2 lbs.

But few people would be prepared to eat so much fruit constantly, and most of our common fresh fruits are mere acid, sugar and water and contain so little albumen as to be hardly worth calculating.

Potatoes are perhaps the only vegetable that need be mentioned. They contain say 1½ per cent. of albumen and yet the Irish have been said to live on potatoes. As a matter of fact, they have always added some form of meal (breadstuffs), buttermilk and some bacon.

It is an interesting point that the Irish who live in the country and on the above foods appear to have a markedly greater immunity from cancer than their cousins who live in towns and add more flesh (and possibly also more tea) to their foods.

In all European nations the hard working poor live most nearly on a natural and correct diet of breadstuffs; they, however, generally suffer from deficient quantities (being in this country unable to get enough milk), and they have only too often added stimulant poisons to help them over the debility which deficient nourishment helps to produce, so that they also like their richer countrymen spend too large a proportion of their income on rubbish or stimulants, or both.

So much for things as they are. We have seen that the majority of the race live as near a natural diet as climate and circumstances permit, and those of them who can get breadstuffs with milk and cheese and some fruit and vegetables, and always a sufficient quantity of these without stint for themselves or their children (and this latter condition is only rarely attained), are as near perfection as need be and their diet may well form a model for the rest of the world.

Where are such people to be seen to-day? Among the poor of many European nations, the Turks, the Arabs and some other African natives, the natives of India (in so far as they do not suffer from wrong foods or deficient supply) and the Chinese; and where all conditions of quantity and quality are favorable the health and physique of these peoples leave little to be desired. But no child will grow big and strong on deficient food, and hence many of these peoples when too poor in Europe, or starved, as in India, are small.

We can now deduce from these facts the best diet for our own people or for those of them who feel the need of change.

The best foods are breadstuffs, milk and cheese, with a little vegetable and fruit in their season, *and only in their season,* for reasons which will appear later.

There is also one natural food which the young at least always eat, namely, nuts, and as these contain roughly 16 per cent. of albumen they can replace nearly twice their weight of breadstuffs and so diminish bulk.

Thus there are two classes of people for whom a natural diet presents almost no difficulties. (1) The young with good teeth, who eat nuts and keep up the habit; for it is easy to add to these sufficient breadstuffs, milk and cheese to be well nourished; and (2) Those who have been brought up in the habit or with the natural liking which enables them to take 1½ to 2 lbs. of breadstuffs every day, whether in the form of meal porridge, pudding, bread, biscuit or cake (as of rice, etc., without egg).

A quantity of milk which is easily consumed, or of cheese which is easily eaten, and a little vegetable and fruit as a relish does all the rest.

Now let us take the case of those who are in difficulties on account of bulk. Let us say that a man who requires 1½ lbs. of breadstuffs a day can only manage a pound. He will want 1¼ pints of milk or 2½ oz. of cheese to make up the deficit. Let us say that he does not want to take milk for fear of getting too stout and that he does not like cheese, or soon tires of it when taken every day. That is to say, he belongs to the idle or sedentary classes who have not in middle life the keen appetite of the worker. And it is just at the table of these very classes who have most difficulty with the diet that one sees course after course of vegetables containing practically no nourishment or, at best, with a little grated cheese or a dilute cheese sauce over them. And a dinner thus devoid of nourishment is often followed by dessert of equally useless fruit and not even a nut of any kind. I do not mean to say that such vegetables and fruits are not nice, but their proper place is as a relish to definite quantities of breadstuffs, milk or cheese which contain some albumen.

In this difficulty he can drink separated milk and take cheese occasionally in place of milk, or if teeth and digestion are sound he can take nuts for at least such portions of the year as they are in season.

Or, lastly, he can take white of egg, which is a 14 per cent. food and practically free from xanthin, which is contained in the yolk.

Failing any of these alternatives he had better take a little egg, fish or meat once a day rather than go short of albumens.

Many nuts can be preserved by burying them when fresh, much as is done with potatoes and turnips, but preservatives should not be used, and nuts which have deteriorated during keeping should be avoided. Those whose teeth are bad can use a nut mill, but if nuts cause dyspepsia even occasionally it is better, I think, to avoid them entirely and to fall back on the other alternatives, either to take separated milk or cheese, or to continue some small quantity of egg, fish or meat, in the hope that in course of time more breadstuffs may become possible.

I always say, however, that there are some people who have lived to middle life on a wrong diet, who are sedentary with little appetite and have feeble digestion and defective teeth, for whom a really natural and correct diet is impossible and for whom more harm than good may result from an attempt to adopt it.

I think also that a sudden change is always wrong, while but little harm can be done in any case if the flesh foods are only reduced so far as the breadstuffs can be increased, the full and correct amount of albumen in relation to body weight, never being departed from.

One must also bear in mind that though those who alter diet in middle life and do well on it may get relief from gout and rheumatism or headache by doing so, this is not the same as if diet had been altered in childhood and those troubles had been prevented. Hence the great importance of beginning young and of thus avoiding structural changes which it may be impossible to remove later on.

And now a few words about heat and cold and the question referred to above about the use of *fruits in their season.*

The object of the diet which I advocate is to get as free as possible from that by-product of animal metabolism, uric acid; and in the above diets the quantity introduced into the body in foods is as far as possible diminished, while it is easy to show that the lavish consumption of flesh and tea may almost double the daily output.

But uric acid may also accumulate in the body as the result of diminished excretion, though introduction is nil and formation no more than normal. Such diminished excretion is commonly produced by acids and by cold, which diminishes the normal excretion of acids from the skin and thus acts as an acid.

Now, the foods and drinks that contain acids are chiefly beer, wine and fruit; also sulphur and its compounds and the mineral acids and their salts.

We can now see at once why it is wrong to eat fruit out of season and why exposure to cold should always be avoided.

Fruit is only in season when the weather is warm, and the warmth by increasing the excretion of acid from the skin does something to counteract the acid in the fruit.

But when foreign fruits are eaten in the cold season there will be a great rise of acidity and nothing to counteract it, and then retention and accumulation of uric acid is likely to result.

The same thing happens in the case of those who go in for deficient clothing and think to "harden" themselves or their children by exposure to cold.

Undoubtedly such cold and exposure to cold acts as a tonic while it lasts and the person exposed feels very strong and well, but as uric acid is accumulating this must lead to troubles later on.

Then the object of correct diet is to be well all day and every day and throughout life and thus never to need a tonic, a bracing climate or other unnatural and unnecessary exposure to cold.

Nothing I say here must be taken as raising an objection to fresh air; by all means let everyone get as much of it as they possibly can; but exposure to cold is a bad thing and we should all aim at getting as much of the good and as little of the evil as possible. In winter we must have warm clothing, warm houses, and the best venilation that circumstances render possible, or uric acid will be retained and accumulate and some results of this will be produced even on the most perfect diet.

It follows also that it is not good to take acid drinks except in warm weather, not to use artificial beverages in which sulphuric or sulphurous acids are used either in preparation or to prevent destructive fermentation.

I would emphasize once more the importance of beginning a natural diet quite young, for not only is prevention much better than cure, but only that child who begins in the early nut eating days of his youth gets on to that form of diet which is best, and only the child who begins some of the bulky foods when young has never afterwards any difficulty in taking the requisite quantity; and as a further advantage such a child having grown up to adult age without any experience of stimulants is most unlikely at any future time to develop a craving for them.

We may remember also that natural simplicity in diet makes for survival and other things equally enables a larger number of units to exist on a given surface of this planet, as witness the teeming populations of the East. The great civilizations of the past have also clearly depended more on corn than on animal flesh.

Natural diet diminishes animal ferocity in man and tends to peace and the supremacy of mind, and we now recognize that mutual aid has often had as much to do with survival as mutual destruction.

To-day we are proud of our civilization and many inventions, but we should never forget that life is not mere survival but health and happiness, and it is quite certain that these things have increased the beauty and sweetness of life.

The real triumph is not the survival of the greatest number of cripples consuming food that might nourish the healthy, but to live so close to nature that the smallest possible number of cripples are produced. Why should people live and suffer unnecessarily?

If man is to rise still further above the animal, and eventually arrive at that moral vantage ground which will render all bloodshed, sorrow and suffering repugnant, he must remember that in spite of his addiction to games and his many inventions for annihilating space and time his teeth remain those usually provided for a frugivorous animal, and that his food supply survival and development in accordance with nature are ultimately dependent on this fact.

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TYPES OF CHRONIC CONSTIPATION AND THEIR TREATMENT.*

By Alfred C. Croftan, M.D.,

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PHYSIOLOGIC CONSTIPATION.

There is a physiologic type of chronic constipation occurring in altogether healthy subjects and producing no untoward symptoms. In this form the bowel contents is, usually from childhood up, evacuated not more frequently than once every two or three days, or even at longer intervals. One must assume in such cases a peculiar perversion of the automatism that normally governs the act of defecation every 24 hours or oftener in average adults. To some extent "education" plays a role in the genesis of this abnormality. In other cases one is dealing with a congenital effect of the general innervation, possibly only of the sensibility of the mucosa lining the rectal ampulla and the sphincter region. In either instance this rare form of "physiologic constipation" is essentially negligible and calls for no special treatment unless it be an occasional mechanical removal of accumulated fecal matter.

ALIMENTARY CONSTIPATION.

Closely related to this physiologic type is what may be called alimentary constipation. Here the stools are evacuated daily, but they are small, hard and very solid. In this form the food factor is usually the determining element and proper treatment must concern itself with the regulation of the diet in the sense, namely, that relatively little albuminous food, but abundant vegetable and fat pabulum and plenty of water are administered.

For the principal albuminous foods, like meat, eggs and milk, are almost completely degraded and assimilated in the upper digestive tract, so that they leave only a very small fecal residue. Moreover, under normal conditions very few substances are formed from albuminous foods during the process of disassimilation that can stimulate intestinal peristalsis.

Fruits and vegetables, including cereals and bread stuffs, on the other hand, on account of the abundant indigestible cellulose material (skins, pips, seeds, husks, stems, etc.) that they contain leave a large coarse residue that mechanically irritates the bowel wall throughout its course and hence stimulates increased peristaltic action. Besides, the organic acids and their salts that most fruits and vegetables contain furnish material for the development of CO_2 in the bowel and this gas, aside from rendering the stools fluffy and bulky, by distending the bowel, also accelerates its peristaltic movements.

The sugar, finally, contained in fruits and vegetables or formed from the starches contained in these products is also promptly decomposed into CO_2 and CH_4, and these gases again render the stools voluminous and stimulate peristalsis. Sugar, however, on account of its hygroscopic properties prevents the absorption of water from the bowel and hence aids in maintaining the liquid or pultaceous character of the stools.

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*Quoted in part from the author's "Clinical Therapeutics."

Fats, finally, act as laxatives both by lubricating the wall of the intestine and, if given abundantly, by leaving the stools fatty and hence rendering the propulsion and expulsion of the bowel contents easier. From the fats, however, various acid bodies, soaps, and glycerine are formed in the bowel that are all slightly irritating to the bowel mucosa and are to some extent hygroscopic, hence stimulate peristalsis and promote free defecation.

A diet of the above character, therefore, usually produces copious stools in alimentary constipation and no further medicinal treatment of this condition is, as a rule, required.

MECHANICAL CONSTIPATION.

In a third type of chronic constipation that may be called mechanical, this diet must, of course, never be administered. In this group we are dealing with inadequate or infrequent defecation on account of the existence of stenosis of the bowel lumen, resulting from lesions within or about the intestine (strictures from ulcer scars or tumors of the bowel wall, knuckling or twisting of the bowel from adhesions, partial compression by enlarged or dislocated organs, tumors, glands, etc., in the vicinity).

To the same category belong cases of venous engorgement and edema of the bowel wall occurring in heart disease and in portal stasis in which overloading the bowel and irritating its mucosa by a diet of the above category would be decidedly dangerous. Here must also be included certain forms of chronic intestinal catarrh with constipation, in which there is swelling of the intestinal mucosa. In these cases above all great care must be exercised to avoid the routine administration of an "anti-constipation diet." The patients in all these forms should be fed only after a careful study of the peculiar requirement of each individual case and with the chief aim in view of maintaining adequate general nutrition.

The evacuation of the bowel contents must, unfortunately, in these cases for a time at least be promoted by the use of drugs and numerous other means that, not being dietetic, need not be discussed within the narrow frame of this article.

PRIMARY HABITUAL CONSTIPATION.

All the above types of constipation are comparatively rare. The most common and the most important type after all is what may be called primary (idiopathic, habitual constipation. The treatment of this variety is exceedingly satisfactory if each case is thoroughly analyzed and a careful distinction is made between the spastic and the atonic varieties of the disorder).

Spastic constipation.

The spastic form of constipation usually develops on the basis of various functional disorders of the nervous system, notably neurasthenia and hysteria, or it may complicate certain organic disorders of the cerebrospinal axis, or it may be a part phenomenon of certain forms of intoxication (endogenous and exogenous), and it not infrequently accompanies general arteriosclerosis.

Causal treatment in the purely functional forms must be directed towards correcting the underlying neurosis. Here a variety of hydrotherapeutics, electrotherapeutics and psychic means as well as a rest cure and all the general measures that are used in any neurasthenic or hysteric manifestation, often produce a cure of the constipation without further treatment. If organic lesions of the central nervous system are discoverable that can be incriminated with producing the spasticity of the bowel wall, then their removal should be attempted. This, in the very nature of things is, unfortunately, usually a very unsatisfactory undertaking, unless a syphilitic origin of the nervous lesions can be assumed and appropriate antiluetic treatment instituted.

If it is impossible to remove the primary cause, then purely symptomatic treatment is often successful. The sovereign remedies for spastic constipation are opium and belladonna, either drug reducing the sensibility of the gastric mucosa and, in this way, reducing the reflex spasticity of the bowel wall. Paradoxical as it may sound, therefore, opium, which is one of the chief remedies in the symptomatic treatment of diarrhea, becomes in this class of cases the most important means of relieving habitual constipation. Laxative remedies, massage, irrigation of the bowel, all measures that are exceedingly useful in the atonic form of constipation to be presently discussed, are directly harmful in the spastic variety and should never be employed. The diet is of very subordinate importance in this class of cases and must needs vary in each individual; no general rules in regard to feeding can be formulated for these patients.

Atonic constipation.

Whereas spastic constipation is a comparatively rare disorder, the atonic variety, which is characterized by weakness of the bowel musculature, is very frequent and probably constitutes the majority of the cases of habitual constipation that are encountered in practice.

In atonic constipation, as in the alimentary variety, the administration of a vegetarian fat diet generally produces relief. This regime should, however, be adopted with some care and conservatism, for, in occasional instances, it will be found that the relief obtained from such a diet is not permanent and that after a few defecations the bowels promptly become constipated again. This phenomenon must generally be attributed to habituation of the weakened bowel wall to the mechanical irritation of such a diet, so that the atonic musculature after a very short time refuses to respond to the stimulus that in the beginning incited it to increased contractions and forcible propulsion onward of the voluminous bowel contents. If this sequence of events occurs, then it is wrong to persist in the use of vegetable fat diet, for the latter will stagnate in the bowel and injure the atonic bowel wall both by its bulk and by the irritation that emanates from acid and gaseous fermentative decomposition products that form from the stagnating material. In such cases, and fortunately they constitute the minority, the evacuation of the bowel contents must in the beginning often be promoted by other than dietetic means. If it is found, however, that, in more favorable cases the diet described above continues to produce copious daily stools, then there may be added to the above bill of fare salt foods of different kinds, *i.e.*, salt meat, salt fish, etc., for the sodium chloride that these articles contain draws water into the bowel or, at least, like sugar, prevents the absorption of a certain proportion of water from the bowel. This self-evidently promotes liquefaction of the bowel contents. In order to further render the stools soft and pultaceous abundant liquid should by all means be ingested. Hence plenty of water or, better still, cold aerated or carbonated beverages are very useful; and a glass of cold soda water or of plain water taken on an empty stomach in the morning is, in many instances, an efficient means to stimulate defecation.

Beer, kephyr, sour milk, and similar beverages containing abundant yeast cells are also particularly useful, for they aid in the formation of carbonic dioxide in the bowel from the starchy and sweet pabulum that, as stated above, should be administered in abundant quantities.

Fruits, especially those varieties that contain abundant water, like melons, juicy pears, apples, peaches, plums, are very valuable in this condition and constitute a very convenient means of introducing large quantities of liquid, together with sugar and fruit acids and a certain amount of indigestible hence irritating cellulose residue.

Coffee in most cases of this kind acts as a laxative. Tea, on the other hand, and claret on account of the tannic acid they contain, as well as alcohol and cocoa, are less useful, in fact, have a tendency to constipate. Milk also, in the majority of people, produces a constipating effect. Here and there an individual is encountered, however, in whom milk produces diarrhea. Gruels, if the coarse particles are strained off, also constipate and hence are not advisable.

It is necessary, therefore, as will be seen, to experiment a little in each case with different articles of food and drink, finally selecting a permanent dietary for these cases from the articles that are known to produce the desired laxative effect in each particular individual. It may be added in parenthesis that smoking a cigarette after breakfast often aids in stimulating peristalsis in atonic constipation.

An important element in the cure of atonic constipation is the education of the patient. An attempt at stool should be made at some regular time, preferably a little while after breakfast each morning and, even if this attempt is abortive for a few days, or if no desire for stool is experienced at this time, the effort should nevertheless be persisted in. On the other hand, the desire for stool at other times during the day should be suppressed for, in this way, a sufficient residue is allowed to accumulate for expulsion at the proper time.

Massage of the bowel and abdomen if properly carried out, above all things self-massage, a great variety of hydrotherapeutic measures, including cold and hot sitz baths, douching the abdomen, the use of Priesnitz compresses, a careful regulation of rest and exercise and the use of electricity are all useful adjuvants to the treatment of any form of constipation. Irrigation fluids, oil injections, all have their place in certain forms of the disorder. A discussion of the indications and counterindications for the use of these different physical means lies altogether without the scope of this article.

A word of warning may, however, be uttered in conclusion against the haphazard and indiscreet administration of laxative, purgative and drastic remedies that is so common in cases of chronic constipation. In most instances drugging is directly harmful to the patient and at best bestows only temporary relief. Far from curing constipation it usually aggravates the conditions that it is intended to correct and makes the patient a slave to the use of this class of drugs.

100 State Street.

THE PREVENTION OF COLDS.

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The season is again approaching when most of the inhabitants of this changeable climate will suffer from colds in the head. These colds derange the orderly working of the entire body and are the direct cause of nearly every disease that human flesh is heir to. It follows then that if colds could be averted the more serious and lasting complaints to which they lead would be prevented.

Working on this principle, that an ounce of prevention is worth a pound of cure, there has been established in recent years a branch of medical science known as preventive medicine, which has for its object the prevention of sickness rather than its cure. This system is the one that has found such favor, and has been applied with such benefit by all civilized nations throughout the world, for the preservation of the health of their inhabitants. In vaccination for smallpox, the quarantine, the anti-spitting crusade and other enforced sanitary measures we have good examples of preventive medicine.

Of all means employed to combat disease, sanitation or hygiene takes first place, because it implies the use of cleanliness, good light, fresh air and proper living. In other words, it is the science of nature. In the prevention of colds in the head the rules of hygiene are particularly applicable, since colds, more than other complaints, represent a departure from the laws of health.

The past winter was a particularly trying one for sufferers of catarrhal affections of the upper air passages, for the reason that the trouble was being constantly aggravated by repeated colds in the head. Besides these, many others have suffered who never before had a complaint of this kind. The sudden and extreme changes in the weather took the people unawares and before they could take the proper precautions to prevent it they contracted a cold.

It is not on account of the cold air that colds are more prevalent in winter than in summer, but on account of the bad air. As a matter of fact cold air is more healthful than warm, even though the latter be just as pure, which it seldom is. Cold air is to the lungs what a cold draught is to a flame —stimulating and energizing.

The trouble is not with the air but with ourselves. In winter we shut ourselves up in rooms that are overheated and poorly ventilated, and keep out the supply of fresh air that is so necessary to our welfare, consequently we become debilitated and lose much of our energy. This reacts to make us frail and tender as hot-house plants, and the first wind that blows causes a cold in the head.

The value of fresh air is shown by the fact that a person can live for forty days without food, seven days without water, but not more than a few minutes without air, showing conclusively that of the necessities of life air is the most vital.

In these days of advanced civilization, and consequent artificial living, especially in large cities, it is indeed hard to follow the exacting rules that comprise the laws of nature. The rose, the most beautiful flower that grows, is beset with thorns, which are wisely placed there to protect the delicate flower from unwelcome insects. So it is with our lives. If we would fortify ourselves against disease we must harden our bodies and make them cold-proof. We must sip the bitter as well as the sweet.

In nature there is a continuous conflict between things opposite. Light is opposed to darkness, health to sickness, and life to death. The power to overcome disease, that everyone possesses, is their measure of resistance and constitutes their state of health.

Those who live close to nature, like woodsmen and hunters, whose food and habits of life are simple and who spend their time in the open, are liberally endowed with this disease resisting power, and these people seldom or never suffer from a cold in the head.

The healthful influence of outdoor living was furnished during the San Francisco earthquake, when most of the people were forced to live in tents and suffered the greatest hardships. Notwithstanding these privations the people enjoyed excellent health and the death rate was lower than it had been for many years.

It is a matter of common observation that an outdoor life favors activity and health, while an indoor and sedentary one conduces to debility and disease. Contrast, for instance, the sun-browned and robust child of the country with the sickly and pale child of the city. The one is the child of nature, the other is a poor imitation. As a matter of fact the poor health of the average city child is not alone responsible for most of the sickness in the large cities, but also for much of the poverty and crime. Continuous ill-health tends to degeneracy, and individuals who are physically defective are seriously handicapped in the struggle of life. Naturally they fall behind, and in order to keep up with the procession they are forced to beg or to steal. Most of the inmates of the prisons, the asylums and the poorhouses are victims of the evils of city life and represent nature's outcasts.

To come back to the subject of colds in the head, it is the inhabitants of the city that suffer most, particularly those of the better class, who spend most of their time indoors and who take very little exercise. When they do go outdoors they bundle themselves up in an excess of clothing and when they are inside they are not comfortable unless the room is unnaturally warm. The very comforts that they pay for, to keep out the cold, are responsible for their colds.

Proof that colds are not caused by the cold air is furnished by the arctic explorer Peary, who, while searching for the North Pole, encountered such severe weather that he lost seven of his toes. The others of his party fared equally bad, but not once during that entire time did he or any of his followers suffer from a cold in the head. As soon, however, as they reached a cosy shelter and spent much of their time indoors most of them took cold.

It may be of interest to know just how a cold is contracted, since such knowledge may enable one to guard against an attack.

To enjoy good health the heat of the body must be kept at a temperature of 98 degrees, and the blood must flow evenly throughout the body. These objects are attained principally through the action of the skin which, in health, is an efficient regulator of the heat of the body. When, however, through too much indoor living and lack of exercise the skin becomes soft and tender, it fails to perform its duties and is unable to ward off a cold.

Assume that a person is heated and perspiring, or that the feet are damp, with the skin relaxed and its pores open. All at once a draught of cold air strikes the body or the feet get wet, and before the pores of the skin can close and keep out the cold, the body becomes chilled and the circulation is thrown out of balance. The blood then is forced under pressure to that part of the body that offers the least resistance to it. This is usually the nose, which is perhaps the most sensitive and most easily deranged part of the organism. As a chain will break at its weakest link, so the delicacy of the nose accounts for its being so easily disordered. As soon as the blood finds its way to the head the interior of the nose becomes congested and swollen, breathing becomes difficult and presently all the other disagreeable symptoms of a cold in the head make their presence felt.

Another reason why colds usually settle in the head rather than in other parts of the body, is because the nose and the throat of most civilized people are seldom free from irritation. Placed where they are—at the very entrance of the air channels—they are directly exposed to the dangers of the impurities that are breathed in with the air.

Most people regard a cold as a trivial complaint and do nothing for it excepting to take quinin. They forget that uncured colds are the direct cause of most chronic diseases and are accountable for much unnecessary suffering. The distress that accompanies a severe cold is known to everyone, but the real danger comes later on.

From the cradle to the grave life is one continuous struggle, and the greatest enemy that man has to contend against is sickness. Eternal vigilance is the price of good health, especially in winter, and if we fail to live in accordance with the stern rules of health we must suffer. We must instinctively learn to know what is good for us and what is not, just as the lower animals have learned.

A century ago people enjoyed better health than they do to-day because their habits of life were simpler. When they were sick most of them resorted to natural means of relief or to home remedies, and afterwards they took good care to avoid the cause that led up to their illness. Nature is a hard mistress, but a just one, and the lessons she teaches are not soon forgotten.

As we look around us we find that poor health is the rule and good health the exception. This is mostly because we live too far from nature. Sickness is a protest on the part of nature against the violation of her requirements. Nearer to nature with its simplicity and freedom is my advice to those who suffer in this unnatural age of machinery and books.

It is interesting to pick up a newspaper and read of the wonderful strides that the medical sciences have been making during the past decade, and we begin to wonder how long it will be before sickness will be a thing of the past. We forget, however, that hand in hand with these advancements go the vices of civilized life, and these latter more than offset the benefits of the former. We are reminded of the foolish man who dug a hole into which to put the dirt of another hole. The millennium is far, far off.

We all know that the more complicated a machine is the more easily it gets out of order and the harder it is to repair. So it is with the complicated process of modern civilization. We burn the candle of life at both ends and then we wonder why we become old and infirm at forty. The question is, Are the advantages of civilization worth the while? Will history repeat itself, and will we suffer the fate of those mighty people before us, the ancient Greeks and Romans?

It is true that we no longer have the

frightful epidemics of smallpox, cholera, etc., that we once had, thanks to vaccination and sanitation, but the lives that were lost through the agency of these diseases are as nothing compared with the ravages of that universal disease of civilization, consumption. This deadly disease is the direct result of overcrowding and the want of good air, light and exercise, and has been properly termed the bedroom disease. Men and animals in the wild state are free from it, but when they are kept in confinement, with scanty exercise and amid unhealthy surroundings, they promptly contract the disease. Our nearest kin, the monkey, is especially liable to it. The keynote to its prevention and cure is a more natural way of living.

If the health of a person suffers from constantly taking cold it shows either that something is radically wrong with the individual's habit of life or that there is some serious defect in the nose or in the throat. The first thing that is to be done, therefore, is to ascertain whether or not the nose and the throat are in a healthy state, and to make them so if they are not. The best climate in the world and the healthiest surroundings are unavailing to a person who has a nasal defect that prevents their being turned to good account. How often do we see people who leave their home in quest of a better climate when the trouble is not with the air but with the nose. An intelligent engineer sees to it that his machine is in perfect order before he sets it to work. The same should be done to the human machine before we set out on our life's work. The trouble with us is that we are so occupied with our business and social affairs that we forget we have a body that needs part of our attention, until it becomes disordered. Then we wonder at our misfortune and expect the physician to cure in a short time a defect of perhaps long standing, that has been aggravated by our own heedlessness

One of the greatest benefits that have been bestowed upon suffering mankind has been achieved through the study and cure of diseases of the nose and throat during the past decade. Formerly, the nose in particular did not receive the attention it deserves, even at the hands of many physicians. It was mistakenly regarded as being of secondary importance, and which, if deranged, we could very well do without. Chronic affections of the nose were thought to be incurable and it was believed that the only treatment that gave promise of relief was in the nature of nasal douches and sprays, measures that the modern specialist considers to be not only ineffective, but very often dangerous.

The chief cause of colds in children is an obstruction in the nose, which leads to mouth breathing. Nothing is more harmful to a child than to breathe through the mouth, since it conduces to bronchitis and imperfect development, besides being responsible for nearly every disease that children are subject to.

One of the commonest results of uncured colds is trouble with the hearing. It is a deplorable fact that two-thirds of our population have some difficulty with the ears, most of which is the outcome of some neglected trouble in the nose. The intimate connection between the nose and the ears is so generally recognized by modern physicians that instead of applying treatment to a diseased ear at once, the preexisting trouble in the nose is first cured; that done, in many instances, the ear complaint gets well without further attention.

Many an ear trouble comes from attempting to cure a cold by the promiscuous use of quinin or the nasal douche. Quinin has ruined the hearing of thousands, and it is doubtful if it ever shortens an attack of cold. Under no circumstances should quinin be used by anyone who has the least tendency to ear trouble. There are other drugs that can be used in its place.

From a hygienic point of view, it is a long step backwards from the so-called improved heating apparatus of the present day to the old-fashioned stove and fireplace of our elders. The older stoves demanded ventilation and plenty of it for their proper working, but the newer heaters work best without it. Most of the catarrhal troubles come from these very heaters, since they raise the temperature unduly, and at the same time abstract the moisture from the air. The air of a steam-heated room contains from 5 to 30 per cent. less moisture than it should. This is highly injurious, for the reason that it favors evaporation from the body and makes the skin feel chilly and uncomfortable. This accounts for the fact that a person often feels cold in a room where the temperature is unnaturally high, while in the kitchen, where the pots on the stove impart moisture to the air, a much lower temperature gives a feeling of warmth and comfort.

Is it a wonder that the air in a steam-heated apartment should be so enervating to man when it is so destructive to wood work and to hardy plants?

Another disadvantage of breathing air that is excessively dry is that it conduces to shallow breathing, than which nothing is more debilitating to the lungs.

The air in many houses is not only deficient in consistency, but also in purity, since it is breathed over and over again and contains the poisonous carbonic acid of the breath. Crowded places, such as poorly ventilated theaters, street cars and the like, take first place in the matter of containing vitiated and unhealthy air, and it is in such places that many people contract a cold or the grip. These diseases are contagious and are very easily carried by the foul air that is being constantly breathed in and out of innumerable lungs, many of which are diseased.

The poisonous nature of the air in a crowded place can be demonstrated by pouring some clear lime water into a glass and letting it stand there. The poisonous carbonic acid gas in the air soon unites with the lime in the water and the liquid becomes cloudy and unfit to use.

The most terrible example of the poisonous nature of the breath is that of the famous black hole of Calcutta. There, in 1756, 146 English soldiers were imprisoned for a night in a room 20 feet square, which was provided with but two small windows. The deadly effect of the impure air was such that in the morning not more than 23 men lived to tell of their night of suffering.

An evil to which most city people are addicted, and which is responsible for a great many colds in the head, is the wearing of too much clothing. It was never intended that we should wear as much clothing as we do, since it is both unnatural and unhealthy. Our early ancestors, like the present day savages, wore very little clothing, but as men became civilized they became vain, and more for ornament than for protection from the cold, they gradually increased the amount of clothing that they wore until to-day most people go to the extreme and wear much more clothing than is conducive to health and comfort.

One of the greatest fallacies is the wearing of thick woolen underwear. Linen or cotton is much better, since it allows evaporation to take place from the body, a thing which wool does not. The Russians, who live in a climate that is much severer than ours, have found through experience that linen underwear is much healthier than woolen. The German army has come to the same conclusion and does not permit the wearing of woolen underwear by the soldier.

The only way to keep from taking colds is to get used to the cold by wearing thin clothing the year round. An Indian on a cold winter day was asked why he did not suffer from the cold, since he had on so very little clothing. He said, the white man does not feel the cold on his face because it is always exposed and gets used to it. So it is with the whole body of the red man.

The scientific explanation of the reason why many city people constantly take colds is that when the body is subjected to a high temperature for a certain length of time the skin becomes flabby and inactive and loses its power of contracting when a sudden change in the weather demands it. The body then becomes chilled and the circulation is thrown out of order. The orderly working of the skin is of more importance to our wellbeing than we think. It regulates the heat of the body. It supplies it with moisture and air, and when called upon it can do much of the work of the kidneys.

Experiments upon animals show that if more than one-third of the surface of the body is rendered useless by being covered with a layer of varnish death results.

The condition of the skin is always a good criterion of the state of the body. We all know that when the health is deranged it is shown in the skin. It follows, therefore, that if the skin can be kept active and healthy the year round there is little chance of taking a cold or, for that matter, any other disease.

The havoc that is wrought by civilizing conditions upon people that are not accustomed to them is aptly shown in the case of the Tasmanians. This once prolific and hardy race of South Sea Islanders for ages resisted the ravages of famines and massacres and were in every way splendid types of manhood, but when the encroachments of the white settlers reached the point of compelling them to adapt themselves to civilized conditions—to live in houses and to wear clothes—their health began to fail and slowly but surely every one of that ancient tribe perished from the face of the earth.

What was said of quinin can also be said of the nasal douche. The latter is truly an instrument of torture, and many an abscess of the ear can be traced to it alone, from water that has found its way into the ear from the nose.

A better way to get rid of a cold is to take nightly a foot bath of hot water to the point of perspiring, then to drink a glassful of hot lemonade or a glassful of hot milk and some rock candy before retiring. Keep the skin dry and for a few days drink plenty of milk and take a light diet.

A word about clothing. The less clothing we wear the less we are liable to colds. This is the basis of the Kneipp cure, simply a return to simple living. Thick clothing is not only uncomfortable, but it is unhealthy as well. We should get used to thin underwear the year round, and if the weather is unusually severe we should put on an extra outer garment or two to insure warmth and comfort. This we can throw off at any time when we enter a warm room or when the weather suddenly becomes warmer. If we will train our bodies to all kinds of weather, as we do our faces, our bodies will become hardened and we will not suffer from the effects of the cold.

The writer speaks from experience. For many years he has practiced what he preaches, and he wears thin summer clothing the entire year with the best possible results.

It is a mistake to think that the neck and chest should be well protected in winter. As a matter of fact these vital parts do better if they are sponged with cold water every morning than if they are smothered with mufflers and chest protectors. Most professional singers know the value of this hardening process and they make constant use of it.

304 Second Ave.

SURGICAL POINTS OF VALUE.

By F. E. Walker, M.D.,

Surgeon to Our Lady of Lourdes Hospital,
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With a steady increase in cures, the result of surgery, there yet remains room for further advancement and improvement, not so much in operative technic, in sterilization of dressings, gowns and instruments, cleanliness of the surgeon, his assistants, the operative field, etc., but more so in the preoperative and post-operative attention, preparation and treatment of the surgical patient.

It is altogether too common an occurrence for a patient to be brought to the hospital in the afternoon of to-day and at nine tomorrow morning submit to an abdominal operation, with no further preparation than a bath, a light supper, no breakfast and an attempted cleansing of the bowels.

Further, many good surgeons of to-day regard the cleansing of the operative field while the patient is being anesthetized as amply sufficient. The emergency patients, of course, must receive treatment at once without regard for certain formalities, but the great majority of surgical patients are those who can wait a day or several

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without trouble of any kind, and with these we should use every means at hand to guard against the probability or possibility of infection, as well as to endeavor by so doing to limit their stay at the hospital to the shortest time compatible with safety.

To do our surgical work correctly and with better results, it is necessary that we go more into detail, take greater pains and use more gentleness in handling patients than in the past. We must aim to eliminate every source of possible infection and minimize influences of a deleterious character, intrinsic and extrinsic, mentally, morally and physically. There must be more care taken in preparation, in treatment, in technic, in the giving of medicines and in diet. More abundance of fresh air in the hospital, more sunshine and more exercise.

It is not sufficient to withhold food, or place the patient upon a light diet prior to the surgical procedure ten, fifteen or twenty hours. There should be a strict system of pre-operative technic covering, at least, two days in all abdominal sections, and from two to twenty days in certain abdominal operations, for it is a well-known fact that the intestinal canal is capable of giving up its numerous bacilli and produce mild, severe or deadly infection, either from the normal bacilli which constantly inhabit the colon from after three hours following birth up to the time of death of the individual, or from numerous transient bacilli constantly existing within the entire digestive apparatus and having a willingness to invade other structures upon the slightest provocation.

According to the researches of Gilbert and Dominic, we learn that the stomach, normally, holds 50,000 bacilli to the cubic millimetre. At the origin of the duodenum 30,000 with a gradual increase to the end of the intestine until 100,000 bacilli to the cubic millimetre are reached. The colon contains from 25,000 to 30,000 per cubic millimetres, and the entire canal contains a grand total of 411,000,000,000 germs. Of this number some 12,000,000,000 to 40,000,000,000 pass daily by way of the feces. These bacilli apparently do no harm in the healthy individual, but in the patient suffering from some disease, which requires surgical intervention, his vitality in many respects is lowered by reason of his disease, and the hardships incident to the operation and including the surgical trauma add to this lessened vitality to a greater or lesser degree. It may, therefore, be quite an easy matter to injure the intestine and to cause an infection, and if we would earnestly, patiently and honestly determine the actual cause of death after an aseptic operation on a previously aseptic patient, is it not quite probable that a majority of such deaths could be justly charged to the careless handling of the intestines in the carelessly prepared patient?

With a full knowledge of what the intestines contain, as well as a certain knowledge that the intestines in almost every abdominal section must be handled more or less severely, and knowing that no effort has been made to reduce or eliminate the millions upon millions of germs, it is not reasonable, nor is it just to charge the infection to the improperly prepared suture, a lack of sufficient sterilization of dressings, of surgeon and assistants, of faulty operative technic, lack of care in the nurse, or after treatment, unless the ground has been carefully studied and the blame placed where it belongs by the system of exclusion.

Another important item is the fact that the economy may be assailed with germs from organs remote from the field of activity, such as the buccal cavity, the teeth and nasal pharynx.

More important than this is a hurried plan of preparing the part to be operated, a restriction of the area to be sterilized, and allowing to remain upon the field washings of strong astiseptic solutions where the incision is to be made. Added to this is the inefficient nurse, who usually prepares the patient, not having due regard for personal cleanliness, merely regarding herself as a scrub woman that somehow has thoroughly cleansed the field.

I have repeatedly seen unclean nurses scrub the operative field, using unsterilized water, laundry soap, and without thinking of sterilizing her hands previously. This would be followed by a dash of ether, alcohol or a quart or so of bichlorid solution.

Hospital locations are also a very important item. Our large city hospitals have been built where the surroundings could not be much more uncongenial. The undue heat in summer, the dust, dirt, smoke, and gas of the street which freely enters, the noise of rail and street cars and nearby elevated stations, the heavy wagons and other street traffic is constant, the roar and turmoil, haste and bustle and many other disturbing influences and, above all this, the feeling, and justly too, of unfriendliness, is not conducive to the best interest of the patient. Neither does all these distracting elements superinduce a fellow feeling of confidence, either in hospital, surgeon or nurse. To the city bred who require hospital care, perhaps no notice will be taken of these things, but the great majority of hospital patients come from the small towns, the villages, the farm, from homes of restfulness and repose, purer air, less noise, no confusion, and a knowledge of tried and true friendship. The large hospital is not the best place of refuge by any means, whether it be located in the city or smaller town. There is too much noise, too many hurrying feet, too much talk in the halls, too many bells in constant service, too little personal attention, both by surgeon and nurse, and too much dependence placed upon the unqualified and sometimes wholly incompetent interne.

Another feature of hospitals, both large and small all over the country, is that of the hospital authorities allowing Dr. Tom, Dick or Harry to enter the hospital and perform any or all surgical operations, regardless of his competency, his ability or his record. His failures will necessarily be many, his cures few. His patients will need longer treatment, and his death rate will be correspondingly high. This lessens the good and brilliant results of the good men, cuts down the percentage of cures, and keeps the hospital standing at a commonplace level. He, it is, who puts the ban upon surgery, and it works a most rank injustice to the surgeon, who is constantly endeavoring to do the highest class of surgery with the smallest percentage of deaths, to see in the hospital reports at the end of the year the mortality increased beyond what it should be. This percentage of increased mortality is due, not to the fellows in his class, but to those who are incompetent, who lack judgment and whose only real asset is their conceit.

I know of one large hosptial which has not made a report of its surgical work for several years, because the men will not compromise their excellent work and splendid results with that class of men who do two, five or ten operations a year with a high rate of mortality, or their patients leave the hospital unimproved, where improvement should have been, and improve only where an absolute cure should have been the outcome.

There is oftentimes a reckless disregard in the handling of patients before, during and immediately after operation, exposure to different temperatures without sufficient covering, all of which gives the already overtaxed system a new burden in the way of calling forth more energy to overcome a cooling of the body or in a subsequent battle with a cold of more or less severity.

Lastly, the matter of diet is no small item, for many patients are delayed in their convalescence by injudicious diet, improperly cooked and improperly served food and frequently in quantities not at all commensurate with the patient's condition. The bowels, too, are often neglected and may give rise to any one or more symptoms of serious disturbances because of the absorption of poisonous intestinal products, which leads to a lowering of the natural forces of resistance with a consequent failure of the wound to heal by first intention or may cause disturbance of a more serious nature.

The organs of assimilation after operation when food has been withheld for some days is very active and a certain portion of the residual intestinal contents are therefore much more easily absorbed. With early and free pre-operative and post-operative elimination of the entire canal, no increased temperature or pulse should follow a clean case, as no blood is allowed to remain within the bowels, hence there is no occasion for the so-called absorption of fiber ferment and a rise of temperature, and in the event some blood was left in the abdomen, in a properly prepared case, absorption is so rapid and elimination so free that no irritation of the heat center occurs.

PRE-OPERATIVE PREPARATION.

In all of the "clean cases" the following rule should be observed:

1st. After diagnosis has been made and the patient has entered the hospital, a warm bath followed by a blanket sweat (if patient is not too weak) should be given. The patient should remain in bed for two or more days; twice daily a brisk alcohol rub and once daily a tepid sponge bath given. The patient should be enjoined to take all the rest possible. The bowels should be moved the first day by calomel and salines. The rest of the time castor oil, night and morning, given. Large quantities of sterile water should be taken. The diet should consist of sterilized milk, kumyss or milk punch the first day. This should be the diet up until noon of the day before the operation, when nothing but sterile water should be allowed. Beginning with the first bath, the patient should receive a sterile tooth brush, and the teeth brushed three times daily, and the mouth washed several times daily with some mild antiseptic solution.

The nasal cavities should be sprayed with a mild antiseptic solution night and morning.

The evening before the operation the operative field should be prepared and a large dose of castor oil given. The next morning the patient receives an alcohol bath and a vigorous massage and the bowels are flushed with a sterilized normal salt solution introduced through the colon tube. The field of operation is again gone over carefully.

During the time the patient has spent in the hospital she has become acquainted with her surroundings, with her nurse and the surgeon, as well as having received an education which establishes her confidence to the fullest extent. Any impression made upon the average patient from system, care and a constant endeavor to have every detail of preparation carried out with a view of restoring her to health will certainly be of benefit.

Forty-five minutes before the hour of operation a hypodermic of morphin grains 1/4, hyoscin grains 1-100, and cactin grains 1-64 should be given. The curtains are drawn and a nurse left in charge to soothe and quiet the patient, as well as to assist in the administration of the anesthetic.

The enforced rest, diet and free elimination, with all the emunctories working easily and harmoniously, renders the entire intestinal canal as nearly sterile as possible. The conclusions reached through the systematic studies of Morfan, Benard, Chusing and others are nicely summarized by Monyhan, in his work "Abdominal Operations," page 21, as follows:

1st. The stomach contains, immediately after a meal, a number of microorganisms of different varieties, according to the nature of the food administered.

2d. If the food is given in a liquid form it is rapidly passed onwards into the intestine, and the bacterial forms are but slightly, if at all, affected.

3d. If food is given in a solid form it remains longer in the stomach, and the number of bacteria contained therein undergo a steady diminution until digestion is complete. The empty stomach is then amicrobic.

4th. The duodenum is often sterile; the number and virulence of the bacteria of the intestine increase in proportion to the distance from the duodenum, and attain their maximum at the ileocecal valve.

5th. The bacillus coli communis is the characteristic organism of the human intestine; it is never absent after the first few days of life.

6th. The stomach and the upper part of the jejunum can be rendered sterile by administering only sterilized foods and by attention to the toilet of the mouth. In dogs, starvation for a few days leaves the upper part of the intestine empty and sterile.

7th. The stomach and intestine, when their contents have been discharged and they are empty, are sterile. If the emptying is prevented by obstruction at the pylorus, or in the intestine, the contents, dammed up behind the block, contain organisms whose number and whose virulence are greatly increased.

Thus, if the canal can be rendered sterile by amicrobic ingesta it goes without saying that an effort should be made to incorporate a rigid system of intestinal preparation in every available laparotomy.

PREPARATION OF FIELD.

The nurse must be as careful in personal sterilization as in the operating room, wear a sterile gown and use vessels, soap, water and sponges which are sterile. The entire abdominal field must be carefully scrubbed from one side to the other and from ensiform appendix to pubes, hair shaved off and scrubbed by sterile soap and water with large gauze pads. The point of incision should be entirely disregarded and every part of the abdomen be thoroughly sterilized. The scrubbing should be very thorough with a lather thick and heavy and frequent cleansings, and the time spent in scrubbing the abdomen not less than fifteen minutes. It should then be washed with bichlorid solution 1-2000 followed by alcohol. A thick gauze pad well saturated with an alcoholic solution of boric acid should then be applied and remain on during the night. In the morning, after the bowels have been flushed and the alcohol rub given, the field of operation should again receive a careful cleansing and an alcohol pad placed thereon. When the patient is placed upon the table the pad is then removed and ether, bichlorid and a large quantity of normal salt solution in the above order douched over the entire abdomen, the patient having previously been wrapped in a sterile sheet. The laparotomy sheet and towels are then placed in position and the patient is ready for the surgeon.

HOSPITALS.

Hospitals should be small and, if the number of rooms are eventually found to be inadequate, new buildings entirely separated should be erected and patients classified. Hospitals in our large cities should be far removed from the business center, and the influence mentioned elsewhere. A large lawn, nice trees, good scenery, flowers, home-like surroundings and internal finishings provided, which will be as near like the average comfortable home as is possible and consistent with perfect cleanliness.

It is a source of wonder to the country surgeon to learn of the number of recoveries obtained in the usual city hospital, where so many distressing conditions exist which are inimical to the best scientific interests of the patient. That a large majority of deaths result from these conditions must be admitted, and such deaths should not be attributed to the operation, but to the uncongenial surroundings and the lack of such things as contribute to the serenity of the mind.

In the small hospitals in the small towns where the air is free from dirt, dust, smoke and gases, where the peaceful quiet of old nature reigns, where tried and true friends are near, where life is quiet, peaceful, full of hope and where the simplicity of the average home is truly exemplified, where sham and glitter and display are unknown, where the surgeon looks after his cases, and is a constant, a frequent and always a most welcome visitor, where nurses are known to be diligent and faithful and where the sympathetic interest of all is apparent, there is a much lessened mortality than the great hospitals in the great cities can ever obtain; and it is gratifying to note the gradual, though slow, change that is taking place among the sick who need hospital treatment, in favor of the small hospitals in the small places. Hundreds of such small hospitals are springing up all over the land and hundreds of the brainiest and most skillful men in the profession are filling the positions as surgeons in these hospitals and are daily performing the most difficult and delicate operations known to surgery, and with as good, if not better, results than hundreds of the so-called lights of the surgical profession, because he has all nature to assist him and every influence to aid. These hospitals and these men have everything necessary to aid them in their work. The laboratories are well supplied with every needed scientific instrument of precision, both in the physiologic, the pathologic, diagnostic and operative stage. He has access to the same teachings and he has more time for deliberate examination, the outlining of the treatment and the carrying out of technic than his city brother, who must needs pay for all the "superior advantages" in the big city, and therefore must hustle night and day that he may be able to keep up with the glittering lights of the fellows who lead the procession.

HANDLING OF PATIENTS.

In handling patients both before and after the operation great care should be used to keep them as warm and free from draughts of cold air as is possible, and there is no excuse whatever for rough treatment, either in or out of the operating room. Solutions to be used in washing the field or inside of the abdomen should never be poured from a distance above three inches, and a thermometer should always be used to determine the degree of heat. The surgeon's or the nurse's feeling of the solution or having a little poured over the back of the hand to see if it is of the right temperature is so crude and unscientific as to warrant condemnation.

All internal organs should be handled with the utmost skill and delicacy, and retractors should not be used in the wound if at all possible to do without them. Hemostats should not be allowed to remain on the tissues for any length of time. All aseptic wounds should be sealed air tight with collodion by the double sealing method and no knots tied from the peritoneum up. The patient's room after the operation should be well darkened, the window raised to admit fresh air, and a nurse left in special charge for, at least, twenty-four hours, pulse temperature and respiration recorded every two hours during this time. Hot water in minute sips does not satisfy the patient nor allay vomiting. It is far better to give as much cold sterile water as the patient wishes. Fewer patients will vomit, and if they do vomit it is easier for them to do so, and the large quantity of water taken will clean the stomach nicely in case of emesis, as well as make it easier for the patient; and in over 50 per cent. the large quantity of cold water will settle the stomach.

DIET.

The patient should be allowed only sterile water the first two or three days. The evening of the first day a large rectal enema of sterile soap and water is given. The evening of the second day two grains of calomel divided into twenty doses, each dose ten minutes apart, is given, followed the next morning by two teaspoonsfuls of magnesium sulfate. As soon as the bowels have moved the patient is allowed sterile milk, kumyss or broths every two hours for two days. Brandy, eggnog and custards may be given. After this the light diet of soft boiled eggs, dried bread well toasted and well cooked steak, thoroughly masticated and only the juice swallowed, should be given for two days, when the patient returns to a general diet. In this way it is possible for us to obtain better results than in any other method followed.

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ORGANIC PRODUCTS BY CHEMICAL SYNTHESIS.

ANOTHER significant and record establishing discovery has been made: the synthesis of suprarenin, the resultant product having identical chemical and physiological characteristics with the active principle prepared from the suprarenal gland. Since the production of urea by Wöhler, in 1828, organic synthesis has advanced by leaps and bounds, until to-day we are able to reproduce products in endless varieties identical with those built up by nature in animal and plant. It is a long stride from chemical methods of a century ago; from the preparation of the crude chemical products of those times to the building up of substances in the laboratory, which are identical with those found in the organs of plant and animal life; from potassium bromid to an artificial active principle of an organ of the animal.

Wöhler's accidental discovery proved that a substance identical with urea, a product thought only possible with the aid of animal or vegetable life could be made through the reaction between potassium cyanate and ammonium sulfate, or in the chemical laboratory. This may be regarded as the first artificial preparation of an organic compound, which led to further research and thus the manufacture of an endless number and variety of medicinal products, many of them of great value to medical science as well as in the arts. Thus the clinician found remedial agents superior in most instances to the natural substances, as they are free from extraneous or side products.

No doubt exists but that our knowledge of the physical properties of chemical composition and structure enables us to predict the physiologic action and remedial value of a substance, for it has been shown that the action of certain products may be so modified by the introduction of a new molecule or withdrawal of a component part of a chemical substance as not only to lose its original properties, but to actually become pharmacologically active in the reverse direction. This is clearly shown in the action of morphin and apomorphin. The difference chemically between these products being the withdrawal of one molecule of water H_2O from morphin to produce apomorphin. Why there should be the physiological difference between these chemicals is accounted for through chemical structure. Thus the trend of research is the question of chemical structure for the specific action of a remedy depends upon its constitution rather than its composition. Chemistry, physiologically, pathologically, as well as therapeutically, may therefore be regarded as the foundation of medical science.

SCIENTISTS AND TEETOTALISM

IT is said that at a recent dinner given by members of the Medico-Psychological Association in London measures were taken to learn to what extent the members indulged in alcoholic beverages, with the result that 96 percent. of the eighty-four members present were found to have indulged in alcohol in one form or another, many in several forms. One of the members, Sir James

Crichton-Brown, who had, with the assistance of the manager of the dining-room, conspired to keep tab on the members, disclosed the facts to those present when called upon to reply to the toast—Science. He further stated that he had attended a similar banquet two weeks previously, at which eighteen of the leading men of science, including the venerable Lord Kelvin, were present, and that everyone of these wise men had partaken of alcoholic drinks. Sir James declared that in view of these facts it were farcical, an obsession or gross hyperbole, to speak of or regard alcohol as a deadly poison.

The fact that men of science, who must be regarded as making the best use of their knowledge in the wise selection of food, drink, and the conduct of their daily lives, should all make use of alcoholics, even if only with their meals, would seem to contradict the assumption of many persons obsessed with the total abolition of alcohol in any and all forms—much as the Christian Scientist, so-called, does medicines at any and all times—that it is poisonous in any quantity, capable of doing only harm and, therefore, to be excluded from the table or house is unwise and not to be credited. We have always believed that the proper use of good wine with the dinner—having due regard to time and place—is a help to man's digestion, his disposition and relation to others. Of course, there are those who cannot, should not indulge, but this must result from personal infirmity. The same can be claimed for all articles of food or drink, as well as of excesses of numerous and various kinds. Wine has been indulged in since history began, and doubtless fermented liquors of various kinds for centuries before. Man will, for aught we know, continue to indulge in "the cup that cheers," and crime and degeneracy continue to damn the race, but we will advance, nevertheless, while he will continue to live longer, get more out of life, give more and grow wiser, as he has for these many centuries. We have no patience with the everlasting croaker, the joy killer, the pessimistic bore, who quotes statistics to prove the increase of crime and the number of defectives. Let us be normal men and women, and, above all, let us lead normal lives.

GENIUS AND TALENT.

Genius we understand to be that exalted power distinguished by instinctive aptitude, independent of tuition; phenomenal capacity usually in one direction derived from inspiration or exaltation, for intellectual creation or expression; that constitution of mind or perfection of faculties which enables a person to excel others in mental perception and expression, especially in literature, art and science. Unusual development of some special faculty which assumes original and sometimes startling methods of expression, which generally exist at the expense of normal thought and action. There may be extraordinay gifts in various directions, but seldom in the same one. It is expressed always in an unusual and startling manner; partaking of the character of originality; not governed by cause and effect, therefore unique. In contradistinction to genius, talent, often spoken of in the same sense, is to be considered superior intelligence. Special aptitude, ability often denoting power and skill acquired by cultivation; application and industry; mental ability, aptitude. Genius is the capacity for the spontaneous, the unreal. Talent, skilled technic as applied to the material or pre-existing and therefore real. We regard Poe, Byron, Wagner, Rembrandt, Napoleon as men of genius. Shakespeare, Darwin, Spencer, Beethoven, Washington as men of talent.

Genius is characterized by egoism, idealization, inversions, disturbances, contradiction, delusion, perversion, mental and physical defects, one or more being present in all men of genius. Talent, on the other hand, by poise, self-reliance, industry, the material rather than the ideal, character, stability and tenacity.

Seneca decided that "there is no great genius free from some tincture of madness," while Lombroso couples all genius with madness, insanity. Those with marked talent all seem to be sane and capable of synthesis.

DIAGNOSIS BY SUGGESTION.

We have frequently asked ourselves how many times a diagnosis is made by physicians, especially in somewhat obscure cases by suggestions from the family or friends. Let us illustrate by citing a case, which for our purposes may be considered a hypothetical one. A lady is taken suddenly dangerously ill at midnight, the family physician is hurriedly sent for, and is told by the husband and mother before entering the sick chamber that the patient partook of a portion of a bad fish for dinner. The mother is sure the fish was bad because it tasted tainted, further stating that she did not eat of her portion, rejecting the first bite; therefore the patient must be suffering from ptomain poisoning. The physician finds his patient suffering greatly; there is nausea and vomiting, some fever, with rapid and feeble pulse, cramps in the limbs and tenderness of the abdomen. Calomel is given, followed by a saline cathartic, brandy and an opiate, with hot cloths over the abdomen. Thus the patient is left until noon the next day, with instructions to the attendant to give opiates often enough to quiet pain. Thirty-six hours from the onset of attack patient dies. Autopsy requested and made, disclosing death from a ruptured appendix. Now the question arises, would a proper diagnosis have been made if the suggestion of ptomain poisoning had not been given, and in that case could the patient have been saved by timely surgical procedures? The moral of this illustration is for the medical attendant to make the diagnosis in the sick chamber after examination of the patient and not in an anteroom.

THE TOXICITY OF CANE SUGAR.

It would seem that there is a class of children who are susceptible to ill effects from partaking of cane sugar. These are usually of rheumatic or gouty parentage, with a tendency to recurrence from an indulgence in sugar. Kerley reports seventy-eight such cases studied, among whom were found persistent colds 17, asthma 4, urticaria 2, eczema 7, rheumatism 4, and recurrent vomiting 8, all to be traced to an indulgence in sugar. There was also recurrent bronchitis 6, endocarditis 6. In the majority of these cases there was sugar incapacity with a sugar eating habit. Cane sugar was prohibited and saccharin substituted in treatment. The children soon became reconciled to the absence of sugar from cereals without apparent influence upon their well being or growth. Abstinence from sugar in the diet did away with the tendency to recurrent colds in children in whom the removal of the tonsils and adenoids was without benefit. Sugar, Kerley discovers, is sufficiently toxic in certain individual infants to produce perversion of function, and in some cases to allow a bacterial invasion, such as in acute articular rheumatism and endocarditis.

POISON FOODS.

A paper on Poison Foods in *McClure's* for September, 1907, by Dr. Woods Hutchinson, has attracted our attention. There is not much comfort to be gained from reading this paper, for the author classes nearly every article of food as a poison. We have always designated any substance a poison which when taken internally, developed in or applied to the body, caused death or disease of the tissues or organs. There are doubtless those who through idiosyncrasy or perverted function cannot take certain foods, but speaking broadly, this should not condemn this food as a poison; the article is not at fault but the person, and yet strictly speaking we presume, to such a person, a food of the character which will disturb the organism may be classed a poison. But where a certain character of food is wholesome to the great majority and injurious to an infinitesimal number of those who constantly use it, is it not after all to be regarded a wholesome food? Meats, wheat, maize, rice, butter or oil, sugar and salt are considered by this author staples. Beans, cheese, nuts, bananas, strawberries, oranges (rarely), crabs, lobsters, oysters, salmon; rarely eggs and milk, tea, coffee, tobacco and alcohol, etc., etc.—we have never before known tobacco to be classed as a food—as poisons.

We fail to see any benefit to be derived from the reading of such "scare articles" by the average nonprofessional. Each person is a law unto himself as far as foods are concerned, and, as a rule, easily learns to avoid those which disagree with him. Many will be unnecessarily disturbed through reading such articles. Give wholesome advice, but we think it best to avoid articles of this character, especially in lay magazines or papers.

AS BROWN AS A BERRY.

The time has arrived when those who left their city homes for a summer residence in the country are returning, and we frequently hear the remark: "Well, how well you look, as brown as a berry;" this remark intended to convey the idea that because the wanderer has returned brown or sunburned he must, of course, be in perfect health.

It is a fact that the brown skin denotes not improved health in itself, but the fact that the person has been much in the sun. Tan or a darkened skin shows the effect of nature to protect the portion of skin exposed to the sun from the actinic or chemical rays, which of themselves are harmful rather than otherwise, when viewed apart from the sunlight as a whole. All persons residing or visiting in hot or torrid countries, or where there is much of sunshine, take on a different color of the exposed parts of the body from those living in northern or colder climates for this very reason. The African negro is not brown but black by heredity, from ages of exposure. A blackberry, for instance, carrying the simile to its finality. The Arab is brown through centuries of this exposure. It could not be truthfully said that these people were healthy because of the color of the skin. There is no doubt but that this studied exposure is harmful. It disturbs the circulation of the blood in the peripheral circulation, blisters the skin, causing it to necrose and peel off, leaving ugly patches, which take all or a greater portion of the remainder of the year to regain its normal condition. Besides, there can be no doubt but that a continued exposure of the skin to the hot, fierce rays of the sun disturbs the control of the nervous, as well as the vasomotor system, and all to what end? That the individual may become as brown as a berry. Only recently a young man, at one of our nearby seaside resorts, carelessly and ignorantly exposed himself to the sun for the greater part of a day while dressed (*sic*) in a bathing suit. He passed most of the time lolling about in the sand near the ocean shore, with the result that he was found about nine o'clock at night very dangerously ill. It was thought by the hospital authorities where he was taken almost insane from the fearful agony of pain that he could not survive, but at last reports, after great suffering, he was improving, and it was thought he would recover. But is this young man, although his is an exceptional case, likely to thoroughly recover in months, or ever? Great damage has been done to his nervous system, which it will at best take a long time to recover from.

The fad of going bareheaded in the sun indulged in by so many of our young men and women, cannot be regarded in any other light than that of great recklessness, if not positive danger. The head, arms and other parts of the body should be protected from the sun's rays, especially by those who only for a few weeks in summer are abroad in the country on vacation or seeking recreation.

FACTORS IN THE COMMUNICATION OF DISEASE.

It has been said that doorknobs should be abolished, because they are the means of transmitting certain diseases, more especially skin diseases, through the promiscuous handling by those whose hands are not above suspicion.

That certain skin diseases are thus communicable is doubtless true, but worse still is the possibility of thus transmitting other and more dangerous diseases, such as tuberculosis, diphtheria, scarlet fever, and other pathological conditions whose cause is due to a germ or bacillus. If there is danger in the doorknob, what may be feared from handshaking? Men—and women, for that matter—are not over particular in handling their handkerchiefs, which may become infected with numerous toxic bacilli from the nose and mouth, as well as from contact with infected areas of the skin. A little observation will surprise many of us in a knowledge of to what uses the handkerchief may be put. In handling this useful article the hands become infected, the infection being communicated to the first or numerous friends and acquaintances in the antiquated hearty handshake. Thus a whole train of infectious diseases may be, and doubtless are, communicated from one to another and passed along to numbers by the second, third, and so on.

All hands are not dangerous through contact, but unquestionably many are. When it is borne in mind that thousands suffering from tuberculosis are constantly using their handkerchiefs, infecting them with the tubercle bacilli, many of which must remain on their hands, go about shaking hands with their friends, who being perhaps solicitous concerning their state of health accompany the inquiry with a friendly handshake upon meeting and upon saying adieu. The danger of handshaking will be appreciated. This kindness is well meant and certain it is that the handclasp were it refused would be a sore disappointment, even considered an act unwarranted and unfriendly by the affected.

An examination of the accumulation under the fingernails of one person was recently made by a bacteriologist and thirteen different kinds of bacteria found; five of these thirteen were pathogenic, the tubercle bacilli, bacillus of diphtheria, influenza, staphylococcus, streptococcus; why not the diplococci, tetanus, comma bacillus, dysenterial, bubonic plague, typhoid, anthrax, pneumococcus and ozena, as well as numerous bacilli of skin diseases, erysipelas, seborrhea, barber's itch, scabies, etc.

It will prove a tedious task, this educating people to the danger of handshaking, but like many other antiquated, obsolete and dangerous customs it should not be indulged in.

POISONING FROM WOOD ALCOHOL

A CASE of wood alcohol poisoning is reported in the *Boston Medical and Surgical Journal* by Gifford, the victim working in a small room tightly closed to prevent entrance of dust, applying to the woodwork of the room first a stain, then a varnish, both made with wood alcohol. The man after four hours confined in the room was perfectly blind, with no other symptom apparent. After a week's time his sight began to return, but soon failed again, and after the lapse of six months he was again unable to see. Slow improvement again began after a time and continued for a year. Is able at present to find his way about.

PSYCHIC PHENOMENA.

IT is related that an Italian who had mortally wounded a fellow countryman by stabbing him in a quarrel, and who was confined in a police station in New York City, where the crime was committed, startled the officers and inmates of the station recently with most agonizing cries of terror at a quarter of five o'clock in the afternoon. In explanation of his cries he declared that the ghost of his victim had just passed his cell. Later it was learned that the injured man had died at exactly the time the assassin had declared he saw the ghost. Whether this is true or not we do not for a centainty know. It would be interesting to learn from some of our friends who believe in psychical phenomena whether such experiences have been reported by those who have made a study of this science, if it can be called a science.

SUNLIGHT FOR TUBERCULOSIS.

In the May issue of the Dietetic and Hygienic Gazette we referred to an article in the *Gazette Med. de Paris,* for January, on "Tuberculosis and Dark Living Rooms," by Juillerat, wherein he gave statistics concerning the prevalence of tuberculosis in Paris, citing the large number of cases in houses whose sleeping rooms had neither light or ventilation, as compared with other houses which had both light and ventilation. Surgeon Charles E. Woodruff called us to task for "educating the people to do what is injurious," stating also that "such teaching is unhygienic." We replied to Surgeon Woodruff in the June Gazette, page 355, and cited a few authorities advising an abundance of sunshine in the treatment of tuberculosis, quoting from such eminent writers and clinicians as James Tyson and Wm. Osler. Now comes an editorial in the August issue of *American Medicine* declaring that we give "Dreadful sanitary advice as to sunshine," instancing the parade in Philadelphia, July 19, when our advice was followed (?) and about 3,000 collapsed. As our remarks referred alone to advice given, that those *suffering from tuberculosis* should seek the sunshine rather than the shade, we are wondering whether all or any considerable number of these 3,000 victims referred to were really suffering from that disease. If the article refers to the Elks parade in Philadelphia in July last, an unusually warm day, which we presume it does, wherein does the comparison fit with the advice quoted by us? Is there to be no distinction between those participating in a parade with all of its accompaniments and the individual invalid, the consumptive, quietly sitting or strolling in the sunshine?

We think that a reading of the articles above referred to will prove to the editor of *American Medicine* that his reference to our quotations is misleading.

DEATH OF DR. SENECA D. POWELL.

We learn that Dr. Seneca D. Powell, of New York City, died on August 24, at Greenwich, Conn., after an illness of three years, or since he took a quantity of phenol, followed by the use of alcohol, which he regarded as an antidote to phenol poisoning. This was done to demonstrate his faith in his teaching that the application of phenol internally or externally, followed by the free use of alcohol, was not followed by destruction of tissue, or if when taken internally, fatal results. He regarded alcohol a perfect antidote to phenol poisoning, and in his surgical clinics and hospital work at the Post Graduate used pure phenol freely, externally as an antiseptic, the application being followed in one minute by free use of alcohol. He reported to the medical press better results than when phenol was used in percentage solutions, without ever having witnessed gangrene of the part. So great was his faith in the neutralizing power of alcohol that he, as above reported, undertook to demonstrate his faith by swallowing a quantity of phenol, which was followed at once by alcohol, but it eventually resulted fatally.

WATER DRINKING.

(A Series of Papers by the Editor.)

THE predominating characteristic of modern medical science in the treatment of disease appears to be an inclination to rely more and more upon those agencies, which like attention to personal hygiene, methods of exercise, the selection of proper food and drink, and the adaptation of improved municipal sanitation, affect by a more natural method such changes in the human economy as contribute to the restoration of health, and largely prevent further advance of pathological processes. In all epochs of medical history the value of water as a therapeutic agent has been recognized. Water, applied in the form of baths—hot, cold, medicated, etc.—renders excellent service in the treatment of many disorders, and is, as well, a powerful prophylactic agent.

Water drinking at the present time has quite a vogue, and by some it is regarded as a universal panacea for the ills of the flesh to which man is heir. The drinking of water with discretion is an excellent measure; but a large number of people carry the habit to excess, and attribute to water more than its due share of therapeutic properties. As to the ingestion, however, of water in large quantities opinions are divided. The Japanese, who are a notoriously hardy and vigorous race, imbibe prodigious quantities of water. The average Japanese individual swallows about a gallon daily, in divided doses.

The *Edinburgh Medical Journal,* May, 1904, discussed the subject editorially, and declared that it would be better for the health of white men generally if they took example by the Japanese and drank water much more freely than is at present the case. "One might have thought," said the editorial in question, "that the advantage which accrues to a gouty man, with clogged tissues and muscles, from the copious draughts of water prescribed at any fashionable Spa, would have suggested that the same fluid employed at home in modified fashion might do away with the necessity of a yearly visit to his favorite resort." It undoubtedly is true that the majority of Americans and of Europeans do not drink sufficient water, but all the splendid health and physical vigor of the Japanese cannot be laid to the fact of their water drinking proclivities. Their temperate habits generally and their simple diet are very important factors in rendering them hardy and strong. Nevertheless, the upholders of hydrotherapy can point with pride to the Japanese as striking examples of the beneficial effects of hydropathic principles.

There are many medical authorities who assert that the good effects of water drinking are much exaggerated. Lydston has protested against the free use of water, and has offered the following conclusions: 1. "While the ingestion of large quantities of water in various affections is often of great value, the treatment is sometimes extremely detrimental. 2. The nutritive value of the blood is often impaired by the relative hydremia produced by the ingestion of large quantities of water. 3. Disturbances of the circulatory and nervous systems are frequently produced by it, so-called weak heart, palpitation, nervous irritability, lassitude and exhaustion on slight exertion, are among the phenomena that may result. 4. Serious digestive disturbance, involving impairment of the secretion and composition of the gastrointestinal juices, and gastromotor insufficiency may be produced by the ingestion of water in large quantities. 5. Edema and anasarca, while often relieved by the free ingestion of water under favorable circumstances, are not infrequently enhanced by it. 6. Renal water habit may develop, by virtue of which the kidney becomes permanently sluggish, unless it receives its wonted stimulus of large quantities of water. 7. Acute and chronic inflammatory affections of the kidneys are sometimes aggravated by giving water in excess, simply by overworking the renal organs. 8. Inflammatory affections of the lower portions of the genitourinary tract are often deleteriously affected by excessive water drinking through the mechanical disturbance necessitated by the resultant frequent and copious micturition."

It may be stated that for the person in fair health a certain amount of water should be imbibed daily, but not an excessive amount. The amount should be regulated by the mode of life, by the temperature of the air, and by other circumstances. So far as water drinking in disease is concerned, it is well known that in some affections large quantities can be consumed with advantage, but that it does not follow from this that all diseases are favorably influenced by the ingestion of large quantities of water.

Davis says, concerning the same question: "The quantity of water needed by a man varies under diverse conditions. It may be said, however, that the amount of water required each day is from two to four pints. The variations in the needs of individuals are due to: 1. 'Their varying size. 2. The character of the food they eat. 3. The quantity and kind of labor they perform. 4. The temperature and dryness of the air.'" The same authority furthermore says: "As to the temperature of drinking water, that must be governed by the needs of the stomach. Iced water will stimulate a more copious secretion of gastric juice. Hot water will tend to soothe an irritated stomach if taken before food is swallowed, and will help cleanse it of mucus, bacteria and remnants of food." The therapeutic methods of water drinking recommended by Winternitz are as follows: When it is desired to flood the tissues with fluid to increase the weight of the blood column, to augment the tension in the vascular system, to increase the capillary pressure, water should be administered in small single doses, but repeated at short intervals of from twenty to thirty minutes throughout a considerable period. When, however, it is desired to cause disappearance of fluid effusions and to stimulate absorption powerfully, it will be possible to effect this by the drinking of cold water, if we alternate the administration of fluid with considerable intervals of abstinence from all drink. The systematic drinking of water renders useful service in the presence of dropsy. The increased ingestion of water exerts a diuretic effect in the strict sense. The organism relieves itself, especially through the kidneys, of the larger amount of water taken. Coincidentally with the increased elimination of water through the kidneys, the solid constituents of the urine are also excreted in greater amount. This is true especially of urea. In this way also the metamorphosis of the nitrogenous tissues of the body is materially augmented.

That under the same influences the oxidation processes are heightened and become more complete is shown by the reduction in the amount of uric acid eliminated; and by the reduction and even the complete disappearance of the oxalates that may have been present in considerable amount.

Winternitz also says that "the excessive cooling of the stomach during digestion, together with excessive dilution of the gastric juice will be a reason for avoiding excessive ingestion of water with the taking of food."

Mosler has found that with rapid ingestion of considerable quantity of water the direct elimination of solid matters through the kidneys is smaller than with gradual ingestion of the same quantities. The drinking of cold water has an influence also upon other functions. It appears to stimulate actively the peristaltic movements, thereby exerting a favorable influence upon the circulation in the vessels of the stomach and the intestine. This accelerates, moreover, the rapidity of the current in the portal vein, and thus favorably influences the functions of the liver and augments the secretion of bile. The latter effect has been pointed out, especially by Bidder, Schmidt, Nasse and Röhrig.

The scientific application of *water drinking* is gradually claiming the serious consideration of physicians, as is evident from the numerous publications on the subject appearing each year. Dessau (*Med. Rec.*, March 9, 1889) expressed the opinion that water serves an excellent purpose when given to infants crying for milk before meal time. Instead of feeding the child with milk every time it cries, pure water should be given until the time has arrived for the next meal. Jacobi ("Intestinal Diseases of Infancy and Childhood," 1887) considers it necessary to give infants an occasional drink of water, especially during hot weather. When there is the least ground to suspect that the drinking water is contaminated with germs of disease it should be boiled.

The administration of moderately cold water is highly lauded in cases of summer diarrhea. Not only does it serve to allay thirst and relieve dryness of the mouth, but it also supplies a want created by the excessive intestinal discharges. Meinert (*Therapeutische Monatshefte*, Dec., 1891) directed a patient suffering from cholera nostras, to drink freely of ordinary tap water. The patient when first seen was in a state of collapse, with pale cyanotic face, cold sweat, deeply sunken eyes, passages without interruption, retching constantly. Tincture of opium had been used and pieces of cracked ice given to allay thirst. The patient did not improve. Meinert, who was called to see the patient, ordered the opium stopped, and prescribed large draughts of water. During eight hours the patient drank a quart of water every hour. Symptoms improved, and the patient was dismissed cured within two days. Two other cases received the same treatment and recovered very promptly.

Cold water drinking is especially indicated in all the cachexias and diatheses. In rheumatism and gout it is useful as a means of diluting the blood so that it can dissolve and carry out of the system a large amount of uric acid and allied substances, and as a means for encouraging activity of the skin and kidneys it proves of decided benefit in these diseases. Scarlatina nephritis calls for the liberal administration of water. Rauchfuss (in Gerhardt's Handb. d. Kinderkr., 1878) favors a plentiful use of water, 100-200 grams (3-6 ounces) every hour or oftener in severe cases of diphtheria. The high temperature, which is generally present in typhoid fever, and the rapid combustion of tissue which it causes, makes a liberal supply of water an urgent necessity. It is important then, in this disease, as indeed it is in many others, to keep the kidneys functionally active, so that the products of combustion may be eliminated.

In cases of gallstones, infectious jaundice, cirrhosis of the liver, and in chronic biliousness, the latter being nothing but a form of chronic toxemia resulting from the fermentation and putrefaction of animal food substances in the alimentary canal, water drinking does much good in freeing the canal of the changed products. From eight to twelve or fourteen glasses of water should be taken, if possible, during the twenty-four hours, so that the liver and intestinal canal will be thoroughly flushed. While it is true that the administration of water in cases of diabetes does intensify the condition of polyuria, it proves of great value in maintaining a proper degree of fluidity of the blood and facilitates the removal of the sugar, the presence of which interferes more or less seriously with the various vital functions.

All authorities agree that a certain amount of water should be drunk by individuals in health, depending, of course, upon circumstances as to the amount, but greater in quantity than is usually the case. That water in large quantities should not be drunk at meals, but that in the treatment of obesity and some other diseases the drinking of water otherwwise than at meals in large amounts is strongly indicated.

To forbid the use of water in obesity is of doubtful utility, since water by dissolving and carrying out of the system the large amount of broken down material resulting from tissue destruction set up by exercise and other means employed to reduce weight, serves an excellent purpose.

Luff says, with regard to water drinking at meals and in obesity, that "so far as he was aware man was the only animal that drank with his meals, and he was not sure it would not be better to copy some of the lower animals as to the time of drinking." In the treatment of obesity it was most important, as far as possible, to induce patients not to drink with their meals. As to the opinion prevailing among the public that weight could be reduced by taking but little fluid it was utterly wrong. The amount of fluid taken by the obese person should be in excess of the normal amount and should be taken between meals, preferably one and a half hours before meals. It should be water in the purest form obtainable, and about four pints should be taken daily. For obesity flushing of the kidneys and stimulation of the skin was most desirable.

The drinking of very hot water before meals is said to be of great value in cases of gastralgia, especially when accompanied by vomiting. The water should be taken as hot as it can be borne and drunk at least an hour before each meal. The fact that hot water has proved of benefit in some cases has led to its excessive use when not indicated by persons who have suffered from the practice. Cold water acts as a tonic, while hot water produces an opposite effect on the digestive function. Hot water contracts the blood vessels of the stomach, thus rendering the circulation less active, the activity of the peptic gland is greatly diminished and, consequently, there is a marked reduction in the quantity of hydrochloric acid secreted. When cold water is drunk the opposite effect is produced. The blood vessels are contracted at first, but later tonic reaction occurs. The circulation of the blood is accelerated, thus increasing the functional activity of the peptic glands.

Opinions differ as to the effect of the free ingestion of water at meal time, but the view generally accepted is that it dilutes the gastric juice and so retards digestion. It is more than doubtful whether any such effect is in reality produced. Is it not possible that water, by washing out the digested food and by exposing the undigested part more thoroughly to the action of the digestive fluids, fulfills a most serviceable purpose? The drinking of water before meals proves very useful in washing away the mucus which is secreted by the mucous membrane during the intervals of repose, and by favoring peristalsis throughout the whole digestive tract. The accumulation of mucus is especially marked in the morning, and food entering the stomach at this time is covered with this secretion, which for a time resists the action of the digestive ferments. Hence, the beneficial effects accruing from the custom of drinking a glass of water before breakfast. We advise the drinking of water whenever thirsty, but never in excessive amounts at one time, *or during* the meal. A thirst for water is almost certain to be an indication that it may be taken with advantage.

Kolipinski is of the opinion that the prime indication in the treatment of acute hemorrhage, after the temporary or permanent closing of the bleeding vessels, is to refill the vascular system with its normal fluid without delay. A plan which yields brilliant results is the very liberal ingestion of drinking water. While advocating the free use of drinking water, it should be well understood that the water should be as pure as possible. When such is not the case water may not only do no good, but may effect much harm, and even be the means of conveying serious disease. The safest method of ensuring pure water is by distillation, although some filters will answer the purpose almost as well.

Lloyd has made a plea for the recognition of the fact that water is something more than a mere solvent; that it is, indeed, an integral and necessary constituent of the tissue elements and of food.

THE NAUHEIM TREATMENT.

THE names of Nauheim and Schott have within the past few years gained well deserved attention from the undoubted benefits derived in all sorts of cardiac insufficiencies at Bad Nauheim under Professor Schott's direction. Former theories as to the treatment of valvular diseases, as represented by digitalis, strophantus, etc., together with rest in bed, are so entirely upset by Schott's reasoning that a short resumé of his methods may be of interest.

Schott first employs baths containing 1 per cent. of salt, which percentage is gradually increased, as each special case seems to require. Each immersion is of about five minutes' duration at a temperature of, to begin with, about 92 deg. F. The water of the Nauheim Springs is used, which is deprived of its carbonic dioxid by storage in tanks. To gain the desired temperature a certain amount of warm, distilled water is added, whereby besides the per cent. of salt is controlled at will.

After each bath the patient lies down, entirely undressed, but between blankets, for an hour or more.

The per cent. of salt is gradually increased by the gradually decreased addition of hot water, whereby also the temperature is correspondingly lowered. When the natural strength and temperature of the Nauheim Springs is reached some "mother lye," rich in calcium chlorid, as obtained from the salt works, is added. After a while the patient is promoted to the sprudel baths, which are rich both in salts and carbon dioxid, and finally to the running sprudel baths.

An interval of a day or more between every second, third or fourth bath is necessary, as patients are not able to stand more at a time. The effect of the baths is undoubtedly strengthening in the systole, with prolongation of the diastole with consequent improvement in the quality and lowering in the rate of the pulse, while in bradycardia again there is the desired increase in pulse.

When the tonic effect of the baths prove too irritating the baths are to be discontinued for more or less than a week, as the case may require.

In addition to the baths, slow, passive movements, or Wiederstand gymnastics, are given, whereby an increased flow of blood to the extremities and muscular structure is gained, thus, though the dilated heart will have more work to perform, it is relieved of part of its load.

In this way both the general muscular system and the heart muscle itself grows stronger, and the general condition and tone of the patient improves.

The salts, the carbon dioxid, and the temperature of the bath seems to act on the terminal nerve-filaments, probably as the fluoroscope shows us, by reflectly acting on the heart. There can be no doubt but all kinds of organic heart lesions are decidedly benefited by this treatment, though great care and careful observation is necessary when advanced cases of arteriosclerosis or aneurisms are treated.

There are many persons suffering from those forms of heart disease which have been shown to be benefited by the Schott Nauheim treatment, who are unable for a variety of reasons to go to Bad Nauheim itself to be treated. Such individuals can be treated at home with a considerable degree of success. The composition of the water used by Schott and his mode of treatment generally is well known, so that it is by no means difficult to provide similar baths and similar measures in this or any other country, as described in Cohn's "System of Physiological Therapeutics," Vol. IX.

The preparation and administration of the artificial Nauheim bath is as follows: The brine solution of Nauheim contains from 2 to 3.5 per cent. of salts, of which about 82 per cent. is sodium chlorid and about 8 per cent. of calcium chlorid. To prepare the brine solution for the artificial baths these or other salts may be used in any strength required. Some use sodium chlorid, others use sea salt; still others prefer Nauheim crystallized salts. The tub should contain from forty to fifty gallons of water of the temperature desired, usually from 97° to 90° F.; this, as well as the saline constitution and percentage, the carbonic acid charge, and the duration of the bath, being adapted to the needs of the individual case. The brine solution is first made, and then the sodium bicarbonate, in convenient packages, is deposited at four places in the tub, roughly corresponding to the shoulders and ankles of the patient when he shall be immersed. The acid cakes (acid sodium sulfate) are deposited in the neighborhood of the alkali—and unless the tub is of wood or porcelain—upon squares of tinfoil. Evolution of gas begins at once and is allowed to progress for two or three minutes, so that the water shall be well charged before the patient enters. When it is desired to limit the action of the gas to a portion of the body the alkali is placed near the part to be acted upon and acid cakes are added successively. In this way a local application may be quite prolonged. The general duration of the bath in cases of cardiac and renal affections is from five to eight minutes, but this is to be governed in each instance by the effect, which in serious cases should be watched by the physician and in others by skilled attendants. To some patients it is well to give the bath at night and to follow it with brief, gentle massage, as the combination tends to promote refreshing sleep. A course of graduated baths, usually twelve in number, may extend over a period of from four to six weeks, after which the treatment may be intermitted for twelve weeks or more. Such a course may begin with weak saline baths; the third or fourth bath may be mildly carbonated, while the twelfth will reach a high degree of saline percentage and of gaseous charge. On the days intervening between the baths Schott's exercises may be carefully employed.

Dr. Bezley Thorne, who has written one of the best manuals on the Nauheim methods, is enthusiastic as to the results gained thereby, and declares that he has himself been witness to improvement amounting to practical cure in cases presenting the physical signs usually regarded as indicative of the following affections: stenosis of either the aortic or mitral orifice; stenosis of both; incompetence of either or both with attendant dilatation; dilatation consequent on myocarditis, on habitual hemorrhage and on constitutional anemia; fatty heart; weakened heart; congenital mitral insufficiency, patent foramen ovale; and angina pectoris apparently of both neurotic and organic causation. Broadbent, on the contrary, somewhat decries the effect of the treatment, and is of the opinion that the beneficial influence of Schott's methods in heart disease have been considerably overestimated; he considers that in a large proportion of real valvular and structural disease the value and efficacy of the Schott treatment are doubtful, and that as good or better results can be obtained by other methods of treatment. He thinks that the method shows its best effects in its influence on cases of functional or imaginary heart disease in neurotic individuals. The truth, probably, lies between these two extremes, and the effects of the salt baths and graduated exercises is beneficial when applied to those forms of disease for which it is suitable. Mitchell holds the view that it is at least doubtful, whether equally good effects can be had from artificially made baths as from the natural waters.

(The cakes of sodium bicarbonate and of the acid sodium sulfate are to be obtained ready prepared in cakes of four ounces each).

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LONDON LETTER.

Recently there has been held in England such a plethora of medical, scientific and hygienic and social congresses that one is confronted with an absolute *embarrassment of riches* in this respect, and one hardly knows with which to deal first. Of course, it would be out of the question to attempt to discuss the papers read at all the congresses at length, and it must suffice to touch somewhat briefly upon the matters of more prominent interest which occurred in each. To particularize, during the first two weeks of August five congresses sat in England, three of which were international affairs. The annual meeting of the British Medical Association had its session at Exeter. The British Association for the Advancement of Science held its yearly meeting in Leicester, while in London the International Congress on Housing, the International Congress on School Hygiene and the International Congress of the Medical Press all held conventions.

The meeting of the British Medical Association went off successfully, and naturally many subjects of great interest to readers of this journal were discussed. Perhaps the most instructive paper read in the Section of State Medicine was that contributed by Professor H. R. Kenwood, of London, and entitled the reduction of infant mortality by the better management and control of the milk supply. He pointed out that the danger from milk began at the source, and there was no doubt of the appalling ignorance which prevailed on dairy farms. To those who were acquainted with the methods pursued in Denmark the conditions prevailing in England were absurd and horrible, and the milk reached the distributor in a state of absolute dirt. Professor Kenwood expressed the opinion that Government supervision of the milk trade in Great Britain was quite as necessary as it was in the case of adulteration of food and drugs. Milk shops should be licensed, not as at present simply registered, and the license must be subject to annual renewal; it would then be possible to require an initial standard of cleanliness and to see that it was maintained. The speaker in discussing pasteurization of milk and the compulsory sale of milk in bottles, said that by the former means much contamination in the home might be prevented, while the bottle was a guarantee of full measure and watering was rendered less easy. He thought that the dangers arising from feeding infants on sterilized milk had probably been exaggerated, for the evidence was very small of the actual existence of any real danger.

Another matter discussed at the meeting of the British Medical Association, which is of intense interest to the medical profession and to the general public at the present time, was that of the relation between alcohol and insanity. As mentioned in former letters, the discussion as to the merits or demerits of alcohol, between members of the medical profession in Great Britain, has reached quite an acute stage, and has even given rise to bitter personal feeling.

The paper read at the meeting referred to was by Dr. F. W. Mott, of London, one of the best-known British authorities. He stated that the types of insanity of which alcohol was the essential cause were not so frequently seen in asylums as was generally supposed. To ascertain whether alcohol was the essential cause of insanity it was desirable to look for those characteristic signs of alcohol poisoning found in delirium tremens and polyneuritic neuritis.

The sentiment of all the speakers who took part in the discussion was in favor of the view that the influence of alcohol in producing insanity had been much exaggerated.

Mr. Tidswell in the same section read a biased paper on the influence of the tobacco habit on the health of the individual and the nation. The speaker had nothing good to say of tobacco, and declared it to be his opinion that from the point of view of the individual there were diseases innumerable produced by the use of tobacco. Frontal headache, neuralgias, bronchitis, pharyngitis and palpitation of the heart were matters of common occurrence, while epithelial cancer of the tongue was often due to smoking; angina pectoris and general paralysis of the insane had also been traced to its use. The majority of the other speakers by no means agreed with the views expressed by Mr. Tidswell.

At the opening meeting of the International Congress on Housing, Mr. John Burns, the president of the British Local Government Board, made an extremely able speech. In the course of this speech he said that the housing problem was not only a matter for old countries; in his judgment it was pressing on new communities even more disproportionately and rapidly than in old communities, if one might judge from Chicago and New York. The death rate of London was the lowest of any great city of the world. He found that the number of persons per house in London was five, where they lived in cottages; in New York, twenty, where they lived in tenements; in Paris, twenty-six, where they lived in flats; in Berlin, forty-six, where they lived in barrack buildings. Mr. Burns, when welcoming the foreign delegates, said that he would derive inspiration from their deliberations for the Housing Bill, which he intends to bring before the British House of Commons next year. Desiring the "back to the land" theory to be tested if possible, before he grappled with the housing problem, he had deliberately held back his measure this year so that the Government might first introduce their measures for the creation of small holdings.

Sir Lauder Brunton delivered the presidential address at the International Congress of School Hygiene, and remarked *inter alia* that the great advantage of a congress of this nature was that the systems employed in various countries were brought together and compared. Of course, as he said, one of the most important subjects of all in this respect was that of medical inspection in schools. Great Britain is, so far as medical inspection of school is concerned, behind every civilized country of the world, and even behind some countries which can scarcely be termed wholly civilized. Another point to which reference was made by Sir Lauder Brunton was that of how best to feed children in school without interfering with parental responsibility.

Sir Shirley Murphy read a paper at the same congress on the intimate relations between infectious disease in the schools and among the population at large. School attendance, he said, concerned the general health, for it meant an increase of infectious disease. Thus the statistics of the ten years 1895-1904 showed that there were more scarlet fever and diphtheria in London during the months when the schools were open.

The health of the teacher was another question discussed at the congress, and it was shown that pulmonary tuberculosis is far more rife among teachers in schools, and especially among women teachers, than among the ordinary members of the community. In order to remedy this evil to some extent, school teachers must be instructed in the laws of hygiene, for it cannot be doubted that lack of knowledge is responsible for many of the cases of consumption which occur among school teachers.

According to the *Lancet*, in London during the month of July there were 17 cases of epidemic cerebrospinal fever notified. In Ireland during the week ended August 17th there were six deaths from this cause registered in Belfast. In Scotland there were seven deaths registered in Glasgow, two in Edinburgh and one in Paisley. In Glasgow the weekly report issued on August 16th showed that there were at that time forty cases under treatment.

Christian Science is being fully discussed by numerous correspondents of the principal British daily paper, the *Daily Telegraph*. The cult is certainly gaining ground in this country, and it is significant that a paper of the importance of the *Daily Telegraph*, albeit by what is termed in England the silly season for newspapers, should give up so much of its space to a discussion of the subject.

Reviews of Current Literature.

MEDICAL SCIENCE AND SCHOOL HYGIENE.

In an address on medical science and school hygiene, delivered before the International Congress on School Hygiene in the University of London, August 6, and reproduced in the *Lancet*, Sir John W. Byers says:

1. The children while at school should be taught, both by example and by precept, the simplest rules of how to live, the necessity for fresh air and for pure water, and for healthy homes, and the relative nutritive value of the various kinds of food which are ordinarily used. They should be instructed in the simple and ordinary laws of health and temperance and in the importance of such matters of personal hygiene as cleanliness, the care of the skin, including the hair and nails and of the mouth and teeth (not more than 3 per cent. of all children of school age have sound teeth), how to deal with sudden emergencies, and how much can be done to prevent the onset and spread of infectious disease. There is no doubt that in schools with gymnasia personal hygiene can be best taught as it can be practically demonstrated there; that attention to the care of the body brings about that most desirable condition which is called "feeling fit." Girls should be taught the elements

of cooking at school by practical lessons as well as the principles of housekeeping; and seeing that we now compel them to attend school, and in this way deprive them to a large extent of that home experience and personal contact with infants which was more the rule formerly, it is surely incumbent to see that they are taught those elementary truths as to the care of infants that all girls from ten to thirteen years of age might know. I am fully convinced that the time has arrived when, if we are to put a stop to those conditions which bring about physical degeneration, especially in our large towns, and if we are to solve fully many pressing public health problems, such as the terrible wastage of infant life, as well as the survival of numbers of them with a poor physique and a weak constitution, and the preventable deaths caused by consumption, children in the primary schools should be instructed in hygiene and temperance. In order that this shall be carried out properly facilities should be afforded to the teachers for special training in these subjects, and finally, hygiene and temperance should be not only included in the curriculum of studies, but they should be reported upon by the inspectors of the schools. I trust that as a result of what will be brought before us at this great congress by experts from all parts of the world England will, in the language of the Prince of Wales, "wake up" to her duty towards her school children.

2. The children should be made to do exercises both in the school and in the adjacent gymnasium, if there is one attached to the school. Nothing is more valuable for children who so often are kept for long periods in a cramped position than what are called the deep breathing exercises (which stimulate the circulation through the internal organs) combined with those movements which bring into play the muscles which move the spine backwards. When such exercises are engaged in by the pupils for a period varying from three to five minutes at the end of each hour, or even at the termination of every two hours in the schoolrooms (the windows of which should be open), they are of enormous value in quickening the circulation, in using up more oxygen, and in counteracting the deleterious effects of the school-desk and of a too long rest in one position or attitude.

3. Lastly, the children must be instructed in physical education and have time for games and athletic exercises. We want our children to be so trained physically that each faculty of the body may be fully developed, and this can be done (*a*) by those methods employed in Swedish schools, which consist mainly of movements without the use of any apparatus or musical accompaniment, which tend to develop groups of correlated muscles; (*b*) by gymnastic exercises and musical drill at the schools, and dancing in the case of girls; (*c*) by games in the open air, either in school playgrounds (and no school should be now constructed without them) or in athletic fields; and (*d*) by swimming when baths are available. In cities where there are public baths these might be utilized.

In reference to whether physical exercises or games is the better system of physical culture for children, Sir John is of the opinion that a combination of all of them will give the best results, each plan being suited to particular types of pupils and climatic conditions, and it is well to make young people realize that the use of physical exercises will prepare them all the better for being proficient in games and athletics. There can be no doubt that games do not train enough all the muscles of the body and perhaps do not give the same amount of strength as exercises, yet, on the other hand, games (which on medical grounds must not be compulsory on every boy and girl and which should be varied, properly selected, and judiciously supervised) do something more than increase bone and muscle and produce strength. They tend—in addition to bringing about a state of good health—to lay the foundation of mental and moral qualities which are of the greatest importance alike to the individual and to the community, and young people who work together in the athletic or playing fields learn to "play the game"—that is, to sink their own personal ends or ambitions for the sake of the cricket eleven, or football, or hockey team, of which they constitute only a part. In the athletic field a boy is trained to submit to discipline or even self-sacrifice (and sacrifice for a good cause is one of the noblest laws of life), and to obey his captain who is more experienced and has greater skill. The game-playing boy soon sees by the decision of the umpire that there are two ways of looking at a question—the interested or personal, and the scientific or unbiased. A prig (that is, "a fellow," as George Eliot defines him, "who is always making you a present of his opinions") could not exist in such an environment. He also observed that a player apparently doing little in a distant part of the field often illustrates the truth of the words, "They also serve who only stand and wait," while by and by, if he himself becomes proficient, he in turn will be selected as leader and has to maintain the prestige and position of his school. In such circumstances a boy learns (what is so important for him in the future) not merely to govern himself for the sake of his fellows, but also to govern them in turn with tact and without friction. Games, as Mr. Alfred Lyttelton has recently pointed out in his address at Dulwich College, enable boys to gain a command over their temper, and when played in the true spirit tend to develop such desirable qualities as courtesy and generosity to opponents. It is in this way that those who engage in games at school gradually become possessed of gifts which must be of countless value in after life in training them to comprehend what is the real meaning and what is the proper object of citizenship, for one of the highest functions of a school is to send out those who have studied within its walls equipped in every respect, so as to be able to render that social service which the State might demand of them—in other words, to be good citizens of the Empire.

While urging the importance of physical education, he says, let me say it must not be overdone either in the case of boys or girls; rather it must be regarded simply as a necessary and useful adjunct to the cultivation of the mind.

What we want is our boys to play games as recreations, not as means of living, so as to make them better equipped for the struggle of life which is before them.

I believe that if the children of our public schools were instructed in hygiene and temperance and if they were trained by a judicious combination of exercises and games such deplorable exhibitions of athletics as we see in so many of our great cities every week would in time cease to exist. I am confident that our young people—like the boys and girls in the primary schools of Japan who are taught every day the important lesson of civic duties—would learn from being educated together in the principles of hygiene and temperance and in the various methods of physical culture—apart from, and in addition to, their intellectual and mental development—what in later years and in changed circumstances will be of the utmost value —namely, what is the true aim and the proper object of corporate life. They would come to realize that the best kind of education is that which develops all the faculties of mind and body, which cultivates individuality, brings about self-reliance, and forms character, and which makes them feel that the highest type of civilization is reached by that community in which they can point out the greatest number of examples of men and women who try in every way in their power to better the condition of their less favorably placed fellow-beings. Such an education will make our young people realize the truth of those beautiful lines:

"So build we up the being that we are,
Thus drinking in the soul of things,
We shall be wise perforce; and while inspired
By choice, and conscious that the will is free,
Unswerving shall we move, as if impelled
By strict necessity along the path
Of order and of good. Whate'er we see,
Whate'er we feel by agency direct
Or indirect, shall tend to feed and nurse
Our faculties, shall fix in calmer seats
Of moral strength, and raise to loftier heights
Of love divine, our intellectual soul."

TRANSMISSIBILITY AND CURABILITY OF CANCER.

Dr. William Seaman Bainbridge, of New York City, calls attention to the growing fear of cancer on the part of people of all classes. He attributes this to the theories of heredity, congenital transmission, and infectiousness or contagiousness as causal factors in the production of the disease. The fear of the contagiousness of cancer has been aroused by the exploitation of the subject in the public press. After reviewing the evidence pro and con of these theories, he calls attention to the following points, adduced from the mass of conflicting evidence, which, pending the solution of the "cancer problem," will lead no one into danger: (1) That the hereditary and congenital acquirement of cancer are subjects which require much more study before any definite conclusions can be formulated concerning them. (2) That in the light of our present knowledge they hold no special element of alarm. (3) That the contagiousness or infectiousness of cancer is far from proved. (4) That evidence to support the theory of contagion or infection is so incomplete and inconclusive that the public need not concern itself with it. (5) That the public need merely be instructed to apply the same precautionary measures as should be brought to bear in the care of any ulcer or open wound. (6) That the danger of the accidental acquirement of cancer is far less than from typhoid fever, syphilis or tuberculosis. (7) That in the care of cancer cases there is much more danger to the attendant of septic infection, of blood-poisoning from pus organisms, than from any possible acquirement of cancer. (8) That the communciation of cancer from man to man is so rare, if it really occurs at all, that it can practically be disregarded. (9) That in cancer, as in all other disease, attention to diet, exercise, and proper hygienic surroundings is of the utmost importance. (10) That cancer is local in its beginning. (11) That, when accessible, it may, in its incipiency, be removed by radical operation so perfectly that the chances are overwhelmingly in favor of its nonrecurrence. (12) That once it has advanced beyond the stage of cure, in many cases, suffering may be palliated and life prolonged by surgical means. (13) That while other methods of treatment may, in some cases, offer hope for the cancer victim, the evidence is conclusive that surgery, for operable cases, affords the surest means of cure.—*Boston Med. and Surg. Journal,* June, 29, 1907.

OIL OF CLOVES A DISINFECTANT.

Oil of cloves is found to be a most efficient bactericide for sterilizing the hands, being superior for this purpose to corrosive sublimate solution. After washing and scrubbing the hands for five minutes in hot water and soap, they are dried on a sterilized towel and washed for a minute in alcohol. They are then rubbed for four or five minutes in clove oil, and again rinsed with spirit. Cultivations with scrapings of the skin on gelose gave only 0.04 colonies with forty-five experiments after the use of clove oil. Where only scrubbing with soap and water was performed 450 colonies were obtained under similar conditions. With corrosive sublimate solution 1:2000, a mean of 21 colonies was obtained. Silk threads contaminated with pathogenic microbes were rendered absolutely sterile by immersion in clove oil for thirty minutes. Catgut ligatures immersed for eight days in clove oil, drained, and soaked in alcohol (95 per cent.) for six or eight hours and dried, are found to be better sterilized than by any other method. The results obtained with clove oil have been so satisfactory that all other methods of sterilization have been abandoned.—*L'Union Pharm., through Phar. Journal.*

A MILLION CARDS ON TUBERCULOSIS BEING DISTRIBUTED.

The Committee on the Prevention of Tuberculosis of the Charity Organization Society of the City of New York has begun the distribution of a million circulars on consumption, printed and supplied by the Department of Health. About 650,000 of these are in the form of a catechism for the use of school children, the remainder being small pocket cards printed in red and black in English, German, Italian, Swedish and Yiddish, and designed for the instruction of the public in general. These cards will be sent to several hundred manufacturers and merchants, who have replied to the committee's request for cooperation in distributing these rules among their employees, to all members of the police and street-cleaning forces, to the National Guard of the State, and to such large employers as the Metropolitan Street Railway and the Interborough.

These cards describe briefly the nature of consumption, and explain that bad air, poor food, and dust are chief among the conditions that bring on the disease, and that the disease itself is conveyed from one person to another through the germs of consumption present in the consumptive's spit. For the cure of consumption, fresh air, good food, and rest are advised, and emphasis is laid upon the necessity of finding out as soon as possible whether one has consumption or not. "Don't waste your money on patent medicines or advertised cures for consumption" the cards read, "but go to a doctor or a special tuberculosis dispensary. If you go in time, you can be cured; if you wait, it may be too 'late.' Throughout the instructions runs in addition the warning, "Don't spit—it spreads disease and is dangerous."

Additional copies of the circulars for distribution in New York City may be had in any quantities wanted upon application to the committee, 105 East Twenty-second Street.

JERSEY'S WAR ON MOSQUITOES.

By the intelligent expenditure of what seem like absurdly small sums of money when compared with the supposed difficulty of the task to be performed, several of the parts of New Jersey that have long had a national, if not an international, disrepute for the number and voracity of their mosquitoes have been practically cleared of the dangerous pests.

The suggestion that the great Hackensack meadows could be freed of the insects, and the joys of summer life in the cities around them thus be vastly increased, was received with derision, and almost with indignation, only a few years ago. Yet a few thousand dollars spent in digging ditches has done away with the stagnant pools in which alone the mosquitoes could breed, and they are no more except in the benighted towns where the people lack either the sense or the energy or both to avail themselves of the relief so close within their reach. Incidentally, and it is incidentally a lot of worthless marsh, has been turned into good dry land.

What has been done on and around the Hackensack meadows, says the *Times*, can be even more easily done almost anywhere else. It ought to be as disgraceful—indeed, it is as disgraceful for a town to have mosquitoes as it is for a town to suffer from an epidemic of typhoid or diphtheria, for the mosquitoes, too, are "preventable," and their presence anywhere convicts their human victims either of gross ignorance or of criminal carelessness. And always it should be remembered that the use of oil in a mosquito campaign is justifiable, if at all, only as a temporary expedient, to be resorted to only for instant effects while the real work of extermination is in course of preparation and performance.

HOT AND COLD APPLICATIONS IN MEDICINE.

Heat is that which increases the warmth of the body while cold abstracts heat. Dr. Blackburn, in *The Therapeutic Gazette*, July, 1907, thus defines heat and cold. Action of heat on nervous system is first a transitory excitant followed by sedative and depressing effect, heart and circulation are accelerated in proportion to the dilitation of vessels; respiration increased then slowed, while secretions of kidneys, salivary, sudorific and intestinal glands are all increased. Cold is antispasmodic, anodyne, anesthetic and antipyretic first causing congestion of superficial vessels followed by contraction. Ultimate effect of heat and cold is identical, the former by lessening the work, the latter by increasing functions. Hot applications are beneficial in acute and chronic intoxications, nephritis, gout, rheumatic and cardiac diseases, locally in neuralgia, colic, pneumonia and pleurisy. Cold applied by sponge baths, complete baths or ice pack. Hyde is quoted as saying much harm is done by Turkish and Russian baths, as they are followed by overstimulation. In acute febrile conditions, cold causes reduction of temperature, improvement of nervous symptoms, strengthening of circulation and respiration, and increased kidney secretion.

SANITATION ON THE ISTHMUS OF PANAMA.

The greatest work in the Canal Zone is not so much to dig the canal as to keep the health of the laborers up to a standard that will allow them to work. Malaria, yellow fever and dysentery have been the dangers to be combated, and it has fallen on the medical branch of the army rather than the rank and file to fight these enemies. Colonel W. C. Gorgas, in *The Medical Record* of May 18, 1907, and in the *Journal of the A. M. A.* of July 6, 1907, has outlined the battle. The temperature and necessity of storing rainfall have been the chief sources of mosquito breeding. Stegomyia, the conveyor of yellow fever, breeds in stagnant water, while the Anopheles for malaria breeds in fresh water and grass. An empty ditch will very soon show a crop of grass. To offset this the ditches are concreted immediately. Barrels of water are kept screened and oiled against the Stegomyia. Towns are divided into sections small enough so that the inspector may visit each house twice a week. All cases of fever are reported and treated as suspicious of yellow fever, and removed to screened wards in hospital or house, screened and fumigated to kill all infected mosquitoes. A strict quarantine is established at each end of the canal, as the greatest danger comes from the non-immune visitors. During month of March the total sickness was 23 per 1000. There has not been a case of yellow fever on the Isthmus since December, 1905.

REMOTE EFFECTS OF TONSILAR INFECTION.

Defensive function of tonsils is easily overcome, especially in childhood, and among the diseases which find entrance through them peri-myo and endocarditis, chorea, adenitis, pleurisy and above all tuberculosis. Dr. Brown, *Journal of A. M. A.*, June 15, 1907, reports cases of recurring endocarditis, chorea and muscular rheumatism. Nephritis and general septicemia are more common than supposed. As an opening for tubercular processes and the intimate connection between tubercular tonsils and adenoids the tonsils are dangerous. Dr. Brown reports cases of apical tubercular infection through the tonsils. Lungs may be secondarily infected through tonsils by direct continuity of tissue and by the blood stream.

REMEDIES IN URINARY DISEASES.

Dr. O'Cromley gives us a resumé of the more common drugs used in urology. Water stands pre-eminent as a diluent. Dilute nitrohydrochloric acid in doses of five to twenty drops to counteract alkalinity and in phosphaturia. In acute, subacute and chronic cystitis, sodium benzoate. Potassium salts on an empty stomach enter the blood unchanged, decomposed there into acid phosphates rendering the urine more acid; if taken on a full stomach decomposition takes place before they reach the blood and thus they render the urine alkaline. Hexa-methylene-tetramine (urotropin) is the best antiseptic; salol and sodium benzoate are fair. Opium and belladonna as sedatives. Digitalis is best diuretic, but its action is variable. In cases of renal tissue disease and casts it should be combined with caffein or squills as more active diuretics. Silver salts, potassium permanganate 1-8000, formalin 1-16000 are excellent irrigating solutions.—*Medical Record,* May 18, 1907.

ABDOMINAL SYMPTOMS IN THORACIC DISEASE.

Pain in hypochondriac region constant and accentuated by coughing may be due to acute pleuritis. Lobar pneumonia presents very deceptive abdominal pains. Dr. Jones (*Journal of A. M. A.*, July 13, 1907) reports two cases of pneumonia, in one of which a normal appendix was removed. Empyema may give rise to symptoms of acute inflammatory or suppurative conditions of any part below the diaphragm. Tympanitis is a frequent abdominal symptom in pneumonia. Epigastric pain due to cardiac diseases is common, myocarditis, rupture of ventricle and angina pectoris giving rise to gastric symptoms which are not relieved by stomachics, but by iodides and nitrites. Failure of compensation causing passive congestion of liver will give gastric symptoms. The explanation of transference of pain is clear when we recall the anatomy of the six lower intercostal nerves which are supplied to the abdominal parietes.

SIGNS AND SYMPTOMS OF MUCUS COLITIS.

Dr. Wilson (*The Edinburgh Medical Journal*, July, 1907) defines mucus colitis as a condition in which functions of colon are impaired, constipation in some form, abnormal secretion of mucus and symptoms of autotoxis. Tongue is pale, flabby and anemic, or it may appear swollen and too big for the mouth, coated with a whitish fur, with sides and point a peculiar reddish shade. Symptoms of stomach trouble, discomfort in transverse colon about two hours after meals. Abdominal walls are lax and muscles thin except in painful cases where there will be rigidity. Dilation of ascending and transverse colon, frequent constipation alternating with loose stools is almost pathognomonic. Stools may be pale, clay or putty colored, but improve in color after irrigation, mucus appears either frothy or coating feces, or even as casts of the colon varying from one to ten inches in length. Effect of mucus colitis on other systems: On circulatory system palpitation, dyspnea, precordial pain and coldness of extremities. Pulse rate lowered, especially in cases of autointoxication. Patients take cold easily, owing to irritation of mucous lining of respiratory tract. Catarrhal symptoms of genitourinary tract and even prolapse of kidney are frequent. Many cases of rheumatoid arthritis may be traced to colon. Patients are neurotic, neurasthenic and hysteric. Treatment by baths and irrigation.

EXPERIMENTAL EFFECT OF TOBACCO UPON THE NERVOUS SYSTEM.

Tobacco contains besides nicotin several substances especially pyridin. The effect of these substances does not become apparent until after months or years of habitual use. Dr. L. Pierce Clark (*Medical Record*, June 29, 1907) gives us a summary of experiments by himself and others. Tobacco is a respiratory paralysant and spinal cord depressor, at first stimulating. Chief effects are on cardiovascular apparatus especially aorta and coronary arteries causing arteriosclerosis. Acute toxic effects are nausea, vomiting, giddiness, malaise, weakness, burning pains in stomach, purging, free urination, rapid imperceptible pulse and death by paralysis of respiratory center.

Chronic poisoning gives a gastroenteritis of hemorrhagic character lowering hemoglobin, reducing red corpuscles. On the nervous system tobacco causes congestion of the brain, cord and peripheral nerves and a degenerative neuritis.

THE LONG-WAISTED WOMAN AND HER MOVABLE KIDNEY.

Splanchnoptosis occurring in long-waisted women is explained by Dr. Gallant (*Medical Record*, July 27, 1907) that at puberty the spinal column lengthens and should carry the viscera up with it, but corsets and long heavy skirts hung from the waist instead of the shoulders prevent their ascent, and stretching of ligaments occurs. Symptoms include gastrointestinal disorders, irregular pains, headache, lassitude, loss of flesh and strength. On inspection we find a hollowing of the epigastrium and bulging of hypogastrium. In 42 cases the greater curvature of the stomach was below the umbilicus in 38 cases, 11 of which were on the symphysis and one dipped into the pelvis. In 35 cases the kidney was prolapsed from one to eight inches. Dr. Gallant has invented a corset for treatment of such cases on hygienic and physiologic lines. It reaches low down over the hips and to the symphysis in front, widening toward the top to allow room in epigastrium. In applying the corset the woman lies on her back with hips elevated and gently strokes and rubs abdomen upward. Then corset is fastened, beginning at the bottom and the lower half laced tight. Results are excellent, more comfort and support, increase in weight, improvement in health and appearance.

PYREXIA IN TUBERCULOSIS.

Fever in tuberculosis is dependent on two causes: absorption of proteins of tubercle bacilli and absorption of toxins from secondary bacteria. Dr. Loomis (*Medical Record*, June 22, 1907) makes a plea for a more general use of thermometer. By its means diagnosis is made before symptoms and physical signs are manifest. It prognosticates more active process by higher temperature. A tuberculosis patient does not suffer as much from pyrexia as in acute diseases, nor does he obtain the same relief on reduction, anorexia, loss of weight, night sweats being symptoms directly referable to fever. Treatment consists of absolute rest, physical and mental, soft diet and stimulants. Antipyretics, especially coal tar products, are harmful. Quinin and codein, however, are very gratifying. Acid camphorate of dimethylamido pyrazolon or acid camphorate of pyramidon in doses of ten grain every four hours to control night sweats. Fever may be lowered by lessening absorption of septic products by inhalants, such as equal parts of creasote alcohol and chloroform, ten drops on a sponge. Expectoration should be increased and morning cough encouraged to rid the lungs of septic material.

OCULAR MANIFESTATIONS IN VENEREAL DISEASES.

Gonorrhea and syphilis both cause certain diseases of the eye, the former causing acute inflammatory conditions of short duration and amenable to treatment; the latter a slow degenerative action of long duration and although yielding ultimately to treatment is very intractable. Both tend to cause permanent total blindness unless treated energetically. Dr. Brav (*Therapeutic Gazette*, May, 1907) outlines the diseases due to each. Gonorrhea may cause an acute ophthalmia, either acquired as in adults or congenital, with acute inflammatory symptoms, edema of lids and a rapidly forming copious yellow discharge, followed frequently by ulcer of the cornea. One author is quoted as saying no case of gonorrheal ophthalmia recovers without some involvement of the cornea. Prophylaxis instituted by Credé is the instillation of a drop of 2 per cent. silver nitrate solution into the eyes of every new born child. Iritis is a frequent complication of gonorrheal arthritis, but may occur without joint symptoms. Treatment of gonorrheal infections of the eye must be energetic and continuous day and night. Flush conjunctiva every hour with boric acid solution. Instill 2 per cent. silver nitrate solution every two hours and keep ice compress on eyes constantly.

Syphilitic lesions have no limit; from the eyelids to the visual center all parts may suffer. Lids may be seat of primary, secondary and tertiary lesions; syphilis, ulcers and gumma, however, are more frequent. Conjunctiva may contain eruption or may be seat of syphilitic conjunctivitis which is amenable only to constitutional remedies. Orbital periostitis, interstitial keratitis, syphilitic iritis are liable to recur. Optic atrophy, primary or progressive and noninflammatory, is frequently first symptom of tabes. Oculomotor paralysis and Argyll Robertson pupil are but manifestations of the effect on eye muscles, both extrinsic and intrinsic. Treatment of syphilitic lesions, both local and general.

Hot Water Applications.—In the application of hot water great and minute care should be taken. In instructing a patient about the care of an ulcer of the leg, for instance, or some chancroidal lesion, a felon, or any infection of the hand, it is a common custom to advise him to "soak the part in hot or warm water," leaving him to guess the rest. What does he do? He goes home, warms some water, and merely bathes the part, or allows it to lie a few minutes in the (probably) lukewarm fluid, and ends the procedure. No results can be accomplished from such treatment. In the instructions to his patient he should be carefully detailed as to them. In ordinarily severe cases I tell them to secure an ample-sized and shaped container for the part to be treated, heat a quantity of water, and submerge the part for at least fifteen or twenty minutes every three or four hours. The water should be as hot as can be borne, and when partially cooled more hot water should be added to bring it to the necessary temperature. In very severe affections, as a bad infection of the hand, or a spreading chancroid of the genitals with, perhaps, phimosis, the treatment should be repeated every hour or two.

I am aware that this is difficult to secure from many patients, especially among the lower classes, but by strongly urging them regarding its necessity we can often "scare" them into its observance.

I am speaking of hot water alone. In many of these cases the addition of some mild antiseptic seems to increase the efficiency of the treatment, especially in open infections.—Hugh Wilkinson, M.D., in *The Medical Brief*.

Fumes of Burnt Sugar as an Antiseptic.—The custom of burning sugar in a sick room is very current among all classes in France, but up to the present has been regarded by scientists as one of those harmless and useless practices which are rather tolerated than insisted upon by the medical profession. But M. Trillat, of the Pasteur Institute, now assures us that formic aldehyde is given off by burning sugar, and is one of the most antiseptic gases known. Five grams of sugar having been burnt under a ten-litre bell glass, the vapor was allowed to cool. Vials containing the bacilli of typhoid, tuberculosis, charbon, etc., were then introduced. Within half an hour every microbe had succumbed. Again, if sugar be burnt in a closed vessel containing rotten eggs or putrid meat, the disagreeable smell disappears. M. Trillat affirms that the formic aldehyde combines with the gases given off by the putrid animal matter and renders them inodorous.—*Practical Druggist*.

THE CURE OF A CASE OF OSTEOMALACIA.

In an article on the suprarenal glands and osteomalacia, in the *Munch. Med. Wochenschrift*, 1907, p. 278, L. M. Bossi, of Genoa, describes the almost marvellous cure of a serious case of osteomalacia by subcutaneous injections of Adrenalin. The patient was a multipara, 38 years of age, who was *enceinte* in the eighth month and had a well defined osteomalacia. After seven hypodermic injections of Adrenalin, each of which consisted of ½ cg. of Adrenalin of the 1:1000 solution, the patient fully recovered.

MASSAGE OF THE PROSTATE AND STRIPPING THE SEMINAL VESICLE.

Although unsurgical to empty pus through the urethra, yet the experience of Drs. Valentine and Townsend, in *The Medical Record,* June 29, 1907, justifies the procedure. The knee elbow and erect flexed positions for the patient are mentioned only to be condemned on grounds of inconvenience and pain to patient and difficulty and ineffectiveness to operator. The gynecological position with patient's fists supporting his tuberosities relaxes and assists. Surgical asepsis is imperative. The index finger well lubricated is inserted into rectum while other hand makes counterpressure over the abdomen. The prostate is massaged first with gentle strokes, gradually becoming stronger until the organ is felt soft and yielding. Then the seminal vesicles are stripped in like manner and patient told to urinate. Massage on a sound is useful if parts are out of reach and not too tender.

Irritation from Lotions.—Lotions, mildly antiseptic and soothing, occasionally cause irritation and the cause, or at least one cause, is not far to seek. It is due to the evaporation and concentration of the lotion, so that a lotion of, say, 2 per cent. carbolic acid may become by evaporation 50 per cent. upon the skin, if there be no discharge or other substance to neutralize its caustic action. When, therefore, lotions intended to evaporate are applied frequently, especially on bandages or lint, they should be well diluted, and water should now and then be allowed to take the place of fresh wetting with lotion. This is a point which nurses will do well to remember.—*Nat. Hospital Record.*

APOMORPHINE IN ACUTE ALCOHOLISM.

Apomorphine in nonemetic doses of 1-30-1-20 gr. is an exceedingly valuable hypnotic. Produces sleep in a few minutes even if delirious. Many investigators are quoted as having used it in alcoholic wards with universal success. In moderate doses it stimulates the heart and slightly raises arterial pressure, while large doses are depressing. In emetic doses the pulse is weakened and increased in frequency just before vomiting, but becomes slower than normal afterward and patient goes immediately to sleep for six to eight hours. Dr. Rosenwasser (*Medical Record,* July 27, 1907) has used it to advantage in dipsomaniacs at time of attack both as emetic and hypnotic. Action not sure if taken by mouth.

PHYSIOLOGIC ACTION, ELIMINATION AND THERAPEUTIC APPLICATION OF SODIUM CACODYLATE USED HYPODERMICALLY.

Experiments with this drug were carried on by Drs. Dawes and Jackson, reported in *Journal of A. M. A.,* June 22, 1907. A marked sense of exhilaration noted soon after injection, increase in weight rapidly, marked garlic odor in breath, sweat and urine. It increases hemoglobin and red corpuscles, polymorphonuclears and large mononuclears with decrease in small mononuclears in anemic cases. It is eliminated by urine, feces, sweat and lungs in form of inorganic arsenic. Liver, muscle and bone marrow of dog showed presence of inorganic arsenic. Very favorable results are obtained with this drug in treatment of eczema, psoriasis, simple, splenic and pernicious anemias, neuritis with anemia, chorea, gastralgia of malarial origin. Dose 0.05 gm. to 2.0 gm. Administered warm and sterile, hypodermically, with long needle deep into gluteal muscles.

TREATMENT OF TRAUMATIC GANGRENE.

Dr. Knott, in the *Journal of A. M. A.,* May 4, 1907, recommends the following operation: A circular amputation is made of soft parts and bones all of the same level, arteries ligated and wet dressing applied. Later when wound is seen to be clean and no extension of gangrenous process, a second operation will make a good stump. Reasons: Trimming flaps and suturing both tend to lessen circulation and tend to sloughing, also some infected material may be enclosed if sutured at time of operation. Amputation not as high in circular as in classical operation. Reports nine cases with only one death.

DIGESTIVE DISORDERS IN PULMONARY TUBERCULOSIS.

Enteroptosis, psychoneurosis, constipation occur frequently in tubercular subjects according to Dr. Arneill, in *Journal of A. M. A.,* July 6, 1907. He argues that these conditions instead of being effects are causes of tuberculosis on account of malnutrition. Treatment should be directed toward visceral troubles first.

Book Reviews.

Uric Acid: An Epitome of the Subject. By Alexander Haig, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Author of Uric Acid as a factor in the Causation of Disease and of Diet and Food in Relation to Strength and Power of Endurance, Training and Athletics. Second Edition. P. Blakiston's Son & Co., Philadelphia, 1906.

The author of this book has written much on uric acid, and his theories have been canvassed pro and con by the medical press of the world. We believe that his opinions are pretty well understood by medical men everywhere. That his investigations have proven useful and valuable cannot be denied, and while many will be found who will disagree with him on some of the conclusions arrived at, still his book should be read, especially in its present shape.

The Mother's Guide for the Care of the Baby in Health and Sickness. By Setrak G. Eghian, A.B., M.D., Specialist in Diseases of Children and Women; ex-Physician in the Charité Children's Hospital in Berlin and Polyclinik of Lying-in Hospital of Leipsic; Member of the American Medical Association. G. P. Putnam's Sons, New York and London.

We like this work because it contains helpful information; information which will be welcomed by physicians as well as mothers, and does not give a list of dosage and prescriptions to be used by the mother or nurse which might prove harmful to the child. Hygiene and prophylaxis are given due prominence. It is well and entertainingly written.

Five Hundred Surgical Suggestions. Practical Brevities in Surgical Diagnosis and Treatment. By Walter M. Brickner, B.S., M.D., Chief of Surgical Department, Mount Sinai Hospital Dispensary, New York; Editor-in-Chief *American Journal of Surgery*, and Eli Moschcowitz, A.B., M.D., Assistant Physician, Mount Sinai Hospital Dispensary, New York; Associate Editor, *American Journal of Surgery*. Second Series. Duodecimo, 125 pages. New York, Surgery Publishing Co., 92 William St., 1907.

This is the second edition of "Surgical Suggestions," and will be found to contain some five hundred paragraphs giving epigrammatic information which cannot but be useful to all medical men. It is handsomely bound, of convenient size, with marginal index, all of which commends the book.

International Clinics. Volumes I. and II. Seventeenth Series, 1907. J. B. Lippincott Company, Philadelphia.

As usual, and as we have come to expect in the clinics, these two volumes are filled with very valuable material. It would be impossible to review each article in these books in the short space allowed us; it must suffice to state that they contain permanent and valued additions to our knowledge of medicine, surgery, gynecology, ophthalmology, laryngology and progress in medicine.

Noteworthy in Volume I. is an article on psychic treatment of functional necroses by Lewellys F. Barker, of Johns Hopkins. The functional capacity of the heart by George William Morris, besides valuable papers by Frederic S. Dennis, Nicholas Senn and progress of medicine during 1906. In Volume II. are articles by Dieulaboy, J. W. Wainwright, Charles W. Burr, Smith Ely Jelliffe and a number of others, all of which are worth the while to study.

Modern Chemistry, Theoretical and Systematic. By William Ramsey, D.Sc. The Macmillan Co., New York, 1907.

This is a small volume in which to treat so important a subject, and our first impression was that an inspection of its contents would be disappointing, but any work bearing the name of Sir William Ramsey as author it was believed would repay an investigation. We are ready, after a close inspection of the book to recommend it to the busy general practitioner, however busy he may be. A study will prove helpful, and open up a clearer conception of this much neglected branch of medical science than many of the more ambitious works.

The first part is devoted to theoretical chemistry and physics; the second to systematic chemistry, in all some 330 pages of closely printed text with a copious index.

The Third Annual Report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. Edited by Joseph Walsh, A.M., M.D. Published by the Henry Phipps Institute, Philadelphia.

To all interested in tuberculosis, and what physician is not, this report will prove interesting and instructive. It has chapters on expectoration in tuberculosis of the lungs; albuminuria in pulmonary tuberculosis; serum treatment; laryngeal and neurological work; autopsies with findings bacteriological and otherwise; the relation of microorganisms to hemorrhage; the kidneys in tuberculosis; tuberculosis in orphan children, etc., in all some 400 pages of carefully written observations by experts.

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by **Franklin W. Barrows, M.D.**

SHALL THE TRAINING SCHOOL TEACH PRIVATE NURSING?

We offer no apology for copying in this number of the Gazette "a few points that may be overlooked." On the contrary we wish to direct special attention to the article, in order that none of our readers shall have an excuse for overlooking it. The writer may be all wrong in her contention, as applied to the modern hospital training school, but her testimony as to the value of her own three months of private nursing previous to her graduation will be hard to refute.

Shall the training school of to-day teach private nursing? To anyone unfamiliar with training schools the question verges on absurdity. Do we have training schools merely to train hospital nurses? How, then, does the private nurse propose to prepare for her work in private families? Are there post-graduate courses in the training schools which give the nurse an opportunity —after spending three years in acquiring a knowledge of hospital work—to learn a little about the particular requirements of private nursing? No? Did you say *No?* How, then, does a graduate nurse become a private nurse? Just starts in on her own account, does she? Well, then, of course, private nursing is just the same as hospital nursing; when you know one you know the other? Wrong again, am I? You say that home nursing is quite a different proposition from institutional nursing, with its system and discipline? Then your training school ought to give the nurse a bit of practical experience in this line and not keep her all of two or three years preparing for a hospital position while she is looking forward to the career of a private nurse. Your school doesn't give a square deal to the nurse or the patient either.

The reader will observe that this imaginary dialogue is more of a monologue than anything else—as though the speaker was talking to a post. And so it is, in reality, when one addresses herself on this subject to the orthodox training school superintendent. Words and arguments are superfluous. The law says thus and so, and the superintendents have voted so and so, and so it is.

Some time your lovely class in advanced embryology will get tired waiting for that young chap of a "demonstrator," who is always fifty minutes late, and they will play truant and chase around town with the district nurse; and then the game will be up.

A little experience of real life, a little sacrifice of our "educational ideals," a little shock to our sensibilities—and the reform will start on its way.

THE NURSE AS A CARRIER OF TUBERCULOSIS.

Two infants in the same family died within two months' time from primary intestinal tuberculosis. The cases were most thoroughly investigated by the physician, Dr. Irving M. Snow, who reports his conclusions to the *Archives of Pediatrics.* The trained nurse in charge of the mother during her confinement with the youngest child remained for a month caring for the mother and two children; she was suffering during this time from a chronic cough and other evidences of unsoundness. Two months later, a bacteriological examination of her sputum disclosed the presence of tubercle bacilli and her lungs showed unmistakable evidences of tuberculous lesions. The doctor concludes that, in the absence of any other probable source of infection in the family or the servants, the two infants must have been infected by personal contact with this nurse. He cites a number of similar cases on record to support this view.

It is hardly necessary to emphasize the very evident teaching of these tragic cases. And yet, at the risk of making our good advice tiresome, we would caution all nurses to see to it that they are themselves sound when they are on duty, and always and everywhere to refrain from kissing their patients or sneezing, coughing or breathing in their faces. We cannot believe that any nurse could depart so far from the ideals and traditions of her profession as to continue in charge of a patient whose health and life she is placing in jeopardy. Hence the necessity for bestowing the most conscientious care on her own health.

NOT SUPPOSED TO KNOW.

A PHYSICIAN called at one of our biggest hospitals to see a ward patient whom he had sent there a few days before for operative care. He found his patient in charge of her nurse, who had just finished douching her. The neatly written record sheet bore an entry to the effect that the patient had come from the operating room, "in good condition," on the previous morning. After inspecting this record the doctor asked the nurse:

"What sort of an operation did the patient have?"

"I'm not quite sure," said she, "but I think it was a curettement."

"What did they remove with the curette?"

"I think it was nothing but a bit of placenta," said the nurse with a desperate glance at her questioner, "but, really, doctor, I'm not quite sure. You know we nurses are not supposed to know what is done to our patients in the operating room."

"But you *do* know, don't you," pursued the doctor, mercilessly.

"Why, yes," said the nurse with a significant glance, "we have to know in order to do our work properly. And what we can't find out, we often take for granted. But we are not supposed to know. We are just supposed to nurse our patients, and not to ask for information that is not given us."

Here is one more instance, thought the doctor, where the pupil has more wisdom than her instructors.

In how many hospitals does this admirable system of discipline prevail!

The pupil nurse is bound to know all that she can find out about her case. It is her main business. But she is not *supposed* to know!

And the doctors, and the head nurses, and the kind instructors in her training school, are not supposed to know that she knows anything that they are not supposed to tell her!

Isn't it a pretty little game of make-believe for intelligent grown-ups to be playing—in school?

AN ELOQUENT MAP.

THE ninth annual report of the Victorian Order of Nurses for Canada is illustrated by a map which shows the location of the thirty or more places where the nurses of this order have worked during the past year. The chain of stations sweeps across the continent from Vancouver to Dr. Grenfell's latest hospital on the Labrador coast, and 104 nurses of the Victorian Order have rendered service to the poor during summer heat and winter cold. This is the good work that our neighbors have developed in the past decade and which they regard, apparently, as only a beginning, to judge by the statement of the Superintendent, Miss Margaret Allen, that "there is still tremendous scope for the work of the visiting or district nurse."

The work is one of which Canada is justly proud. When shall we be able to make a similar showing in our own country?

CLINICAL DIAGNOSIS FOR NURSES.

By Albert T. Lytle, M.D.,
Buffalo, N. Y.

(Continued from page 493.)

Gastric symptomology is intimately associated with that of the rest of the alimentary tract so that intestinal and hepatic signs are often mistaken for those of the stomach. The signs presented by the stomach may be due to causes operating entirely without and at a distance from that organ, in which case they are known as "reflex gastric symptoms," for example, the nausea often accompanying menstruation and pregnancy, the vomiting of meningitis and the indigestion of eye-strain.

Pain—"gastralgia," "stomach-ache,"—is a very common complaint and may stand as an early important symptom of such momentous diseases of the stomach as "cancer" and "ulcer," or, for so serious a condition as "locomotor ataxia" which is not a stomach disease; while in children, gastrodynia often indicates the onset of some child's disease like "chicken pox." The nature of gastric pain varies from the vague discomfort due to over-eating to the agony of an ulcer, a cancer or a locomotor crisis. The burning pain accompanying some of the errors in the secretion of the stomach juices is known as "heart burn,"—"cardialgia"; this is a gastric symptom which nearly every one has at some time experienced; it is a sign of so mild a condition as a simple dietetic indiscretion, or of some individual idiosyncrasy toward special articles of diet, or possibly of some grave anatomical defect of the stomach, as "gastroptosis," or of such conditions as dilatation of the stomach.

The character of the pain may be sharp, cutting, lancinating, spasmodic, intense, as in cancer and ulcer, or it may be dull, aching, pressing, bursting as in secretory disturbances and in some nervous affections. The area involved in the discomfort may be circumscribed or disseminated; it may always originate at a definite point and remain localized thereat or radiate over wide areas therefrom; its place of origin may be located at different points at different times, or it may begin as a diffused pain at once.

The time of the onset of gastric pain varies from the continuous pain of cancer and certain secretory disorders to its irregular appearance in certain neuroses. With relation to the ingestion of food in some instances pain commences practically immediately upon the entrance of food into the stomach, as in ulcer and in acute gastritis, or, it may come on at any time up to an interval of several hours after food has been taken into the stomach as seen in cases in which pyloric obstruction prevents the food from passing into the intestine, thereby causing stagnation with subsequent improper fermentation of the contents of the stomach.

It will thus be seen that the question of "stomach-ache" is far from a simple one and that it requires the combination of many other symptoms to complete the pathological picture necessary for a diagnosis. In reporting on this class of pain, the nurse should determine, particularly before making notes, the time relation of gastralgia to meals or the effect of particular kinds of food on its production; its diffusion or its definite location with its point of origin and subsequent distribution; the character of the pain including the sensations of distention, pressure, etc. In children, it should be recalled that stomach pain is frequently an early symptom of diseases of the chest, and the nurse should be on the look-out later on for the onset of respiratory disturbances as well as of other diseases.

"Belching," "eructation," "flatulency," are terms applied to the expulsion or throwing up of gases from the stomach. Frequently, belching is associated with "regurgitation" which latter term means the throwing up of small quantities of stomach contents yet not enough to really define it as vomiting. While eating and drinking, air in greater or less quantities is introduced into the stomach, and not infrequently, instead of being absorbed into the system it is belched; belching due to this normal physiological cause usually comes on very shortly after the ingestion of food or drink and lasts for but a few moments; occasionally at such times small portions of the material just ingested, unaltered by stomach action will be regurgitated; this is seen in infants who frequently, immediately after eating, "spill out" a few mouthfuls of milk in the same condition as when taken,—especially dces this occur with bottle-fed infants. Another class of cases in which ingested air is belched unassociated with food ingestion falls among certain forms of hysteria.

When the gastric juice is below par a false fermentation of the ingested food is likely to take place with the production of much gas which is belched at longer or shorter intervals, ordinarily after considerable time has elapsed following the taking of the food. Factors within the stomach may cause these gases so produced to have odor and possibly taste—they may be pungent in character—of course if accompanied by small quantities of the gastric contents they will give rise to positive sensations of odor and taste. Not uncommonly the excessive formation of gas within the stomach by a false gastric chemistry is unaccompanied by belching, but is evidenced by the patient's complaint that the stomach is too full and that the clothing feels uncomfortably tight—this symptom often subsides after a little time has passed or a little belching has occurred.

Excessive belching, its occurrence during long periods of time continuous or interrupted, its recurrence after every meal or always following the taking of food, the finding of marked odors in or the complaint of a disagreeable taste to the gases belched, all should be carefully reported.

200 Lexington Ave.

(*To be continued.*)

THE IDEAL NURSE.*

By Hubert Ashley Royster, A.B., M.D.,

Raleigh, N. C.

Professor of Gynecology and Dean of the Faculty, Medical Department, University of North Carolina; Gynecologist to Rex Hospital; Surgeon-in-Chief St. Agnes' Hospital; Surgeon Southern Railway.

There are many and divers qualities in the make-up of the good nurse. It is understood that she should have sufficient intelligence and proper education for her work, and that she should enter upon it with zeal and love. All this is required and expected for admission to any training school. Such bare facts will not enter into our consideration this evening. You have all complied with these requirements in abundance and I take it that you possess them or else you would not be here to receive your diplomas. Nor is it my purpose to treat of the ideal nurse as one of the imaginary, unreal, supposititious or fanciful kind—one whose qualities are to be emulated, but not attained. I would present to you, as well as I may, the picture of a practical ideality which each of you can realize by your own efforts. Within the realm of one's limitations nothing is impossible in the presence of an ardent overwhelming desire. Desire is the one constant element of success; there may be others, but that is always present. Desire a thing eagerly and you will get it, if possible—even at the sacrifice of everything else. A domestic philosopher says: "Aim at the moon, if you hit a stump." And I say, strive for the ideal if you never reach it. The very striving makes you strong. I might mention a thousand qualifications for my ideal nurse, every one important. But it would be to us like a book printed in italics; everything emphasized is nothing emphasized. I have, therefore, selected from the thousand, four which I wish most heartily to lay stress upon, for these I regard as the essentials. With these you may acquire or do without the other 996, since they are included; without them you can do nothing.

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*An address delivered to the graduating class of the Tabernacle Infirmary Training School for Nurses, Atlanta, Ga.

They are Character, Conscience, Health, Tact.

1. *Character.* And the greatest of these is character. That is a significant word. Did you ever pause to understand its meaning? There is a general impression that it implies a sentimental view of things, a self-righteousness, or that it expresses a certain mystical nature given to a few people. The derivation of the word shows its real meaning, viz., "to make sharp, to engrave, to cut into furrows; the sum of qualities which distinguish one person or thing from another." As a matter of fact your character represents your attitude toward life and its affairs. You are making character every day, for better or for worse. A good character gives you the desire to do right. But a character is capable of evolution, and once the yearning for right doing is planted its effect is sure to come.

The profession of nursing, second only to that of medicine, is beginning to assume a scientific aspect. From out the days and times of the Sary Gamps it is a long step to the modern trained nurse. This advancement has not been one of a social or moral nature, but one dependent wholly on the growth of science. Formerly the nurse was merely a soother; with her magic touch she cooled the fevered brow; but she was ignorant and uneducated. Important as these offices are, the nurse is now expected to be not only a *doer,* but a *knower.* The nurse must be a scientist (better not attach the word "Christian" too closely to it), which means a knower, a seeker after truth, a lover of right. She must be the mainstay of the physician and know what to do in his absence. The model physician is always a man of science and the nurse is his partner. Do you not see in this association the development of character for both? There is no question of the effect of science on character. In a recent address to medical students Dr. Musser, of Philadelphia, said: "It is apparent, therefore, the lesson of our science and of our colleagues is that the scientific method is the one essential for your success. Fortunate are you who have it for an impelling motive. It not only unfolds the truth, the only rational result in any science, but, let me tell you, it develops character. To conduct such methods means that we are determining truth."

One of the predominating forces in a nurse's life, one that will demand her constant care to preserve, is that greatest of all human virtues, self-control. The petty annoyances, the monotonous duties, the gloom of the sick-room, are enough to upset one's equilibrium. But how necessary it is that the nurse should not betray her emotions! She must be sympathetic, but not slop over; firm, but not harsh. Let not personalities guide your thoughts or actions. What folks say or do is to have less effect upon you than that which you yourself feel or think. In substance, Robt. Louis Stevenson has written: "An idea is abroad in the world that it is my duty to make my neighbor good. There is only one person to whom I owe this duty—*myself.* As for other people it is my privilege to make them happy." Character in the nurse is the basal element, the fundamental principle. It enters into her every thought and deed. It endows her with a mental and moral poise which cannot be effaced. It shows itself in her manner, in her administration of food and medicine, in her dressing of wounds and operative assistance, even in the neatness of her charts and of her person. There is no getting around this: true greatness does not exist without character. And the truest character is one that is progressive—which reminds me of some lines, peculiarly appropriate for the nurse: "The heights by great men reached and kept were not attained by sudden flight; but they, while their companions slept, were toiling upward in the night." I have divided character into its component parts, each one representing a letter of the word, so that the whole spells character. Let me give them:

Courage
Honor

Ambition
Reliability
Aptitude
Charity
Tenderness
Earnestness
Refinement

2. *Conscience.* It is most necessary for one entrusted with life and death to have a conscience which may be at all times "void of offence." It is not enough that it should be merely clean; it were better for it to exhibit some of the marks of conflict, for it will be sorely tested. The judge looked down in rage upon the witness on the stand and thundered: "What do you mean by swearing to those lies? Have you no conscience?" "Yes, Judge," replied the man. "I have a brand new one—I have never used it." 'Tis better to be worn and threadbare than never to have worked at all.

The nurse's conscience is her guiding star, the keynote of her daily rounds. Every motive must measure four square to the rule of conscience. There are moments when she is the only one on earth to know of or answer for certain facts and upon these may depend a human life. The patient, his physician, family and friends are all powerless. Is there temptation to put down something a trifle different? Would it make any matter if this were given in that way? and so on. There is only one way—the right way.

There is sometimes seen a tendency to belittle the function of the conscience by railing at many for being over-conscientious. While I admit that a virtue run to seed may constitute a vice, I do not grant that it is possible for one to be too conscientious about anything. Examples of such conditions are the results of a morbid conscience—a diseased state calling for special consideration. It is not a case of too much conscience, but of too little of the right kind. I once knew an excellent nurse who, just two months before her graduation, had in charge a special case in the hospital. One morning, as she was about to give a dose of medicine the ambulance came in below with an exciting accident case, and in the confusion, while looking out of the window, she picked up the wrong bottle and gave the patient a tablespoonful of chloroform liniment. No disastrous consequence came, save violent nausea, but the nurse sent in her resignation and gave up her profession. She felt, as I heard her say, that if she could not trust herself where her training was received she could not do so outside when alone with her responsibility. We must judge of these things for ourselves. I leave you to say what you would do under like circumstances. Mistakes you will make, as we all do.

Two particular characteristics are to be manifested in the conscience of the nurse. It must be accurate and it must be aseptic. Though both are needed in all branches of your work, the first is especially called for in medical nursing—the giving of doses, the watching of time—precise methods at every turn; and the latter in surgical nursing, where the "aseptic conscience" (to borrow the phrase which has become current) pervades the whole fabric of technique and where as always the chain is no stronger than its weakest link. It is not necessary for me to tell you how important are these characteristics.

3. *Health.* "A sound mind in a sound body" is a trite but wholesome maxim. Before entering a training school it is ascertained that you are free from organic disease and that you are robust and have strength equal to your task. Just as important as having health is keeping it. Your health is your capital, your stock-in-trade. Guard it at all times. It will not do to say that you are so busy with your work as to neglect your own body. Better, far better, not to work at all. It is an invariable rule of mine to insist that every nurse on my cases shall take an hour's walk in the open air each twenty-four hours and to require them to get a full quota of sleep. We cannot expect a nurse to do her best with a body worn out and unrefreshed. It is surprising how much we owe to physical excellence. The power of the orator is

due, in no small measure, to his physique, and eloquence proceeds sometimes from the body rather than from the soul. My personal belief is that the body influences the mind more than the mind does the body. A preacher with dyspepsia cannot be pious. The great question, "Is life worth living?" may be answered: It depends on the liver. The dispositions of human beings vary with the changes in bodily conditions, so that at one time they accept with equanimity what at another time would cause them to be perturbed and troubled. I surely should not place confidence in a nurse who had lost sleep, who did not observe her regular habits, or who was suffering from any physical ailment. There is vigor and strength in those who are brimming over with good health—and it is contagious. Comfort, encouragement and peace go out from such people and their path is the way of sunshine and joy.

4. *Tact.* I shall attempt now to leave with you the essence of all the attributes—the little word with a big import—tact. It cannot be defined. It is a peculiar personal charm, arising out of politeness mingled with common sense. "Gumption" is its companion piece. Of all people on this planet the trained nurse has the largest opportunities for exercising tact. First of all, with the patient: if his temperature is up there is no reason for his knowing it; when the wound is not doing well it is not necessary that he should see it; and in the event of bad news in the morning paper you are not doing him a kindness by letting him read it. With the family and friends the greatest possible strategy is needful, for you will find that there is yet a prejudice in certain places against the trained nurse, chiefly among those who are enveloped in their own conceit. You will find room for the utmost *finesse* in getting on with these people. Above all, the nurse must not forget the dignity of her profession; that she is upholding a beneficent science, while the people in question are ignorant or knavish or narrow—I know not which is worse. Besides, the nurse can avoid all such disturbances by being tactful—that's all.

Lastly, toward the doctor the nurse may be considerate by keeping away from him the frivolities, the personalities and the trivialities attending each case—for these are ever present. Another way of expressing that "ignorance is bliss" is to say in a less poetic, but more pointed, fashion that: "what you don't know won't hurt you." The physician has numbers of cases while the nurse has only one in private work and, if he were taxed with the smaller affairs of each patient, he would soon be a walking omnibus of worries. Keep to the essentials and never omit any, but do not multiply details. Use judgment—which is a dignified name for tact.

202-203 Tucker Building.

ONE LONG CASE.

By Miss Mary F. Wallace.

Springfield, Ill.

I think nurses, one and all, are agreed that "nervous cases" are the most trying for patient, physician, nurse and all parties concerned. They are usually of long duration, yielding very slowly to treatment. Much depends on diet and fresh air. Temperament also plays a large part.

I shall never forget one case that fell to my care for eight months. The patient, a young lady, had always been rather frail, though not subject to any organic disease. She was of a bright, sunny disposition, thoroughly well informed, having had good educational advantages both at home and in foreign travel. There was a history of some neuralgic trouble and some fault in vision.

When I was first called to the case the patient was having a mild form of typhoid. As I now recall it, it was necessary to use the cool sponge only twice to control temperature. The temperature was never above 102 3-5°; about the seventeenth day it became normal and there was never more than a degree of elevation afterward. The pulse was never high and usually of good quality.

From the first a troublesome cough allowed the patient very little rest. There was no expectoration, no lung complication and not until the third week did any throat irritation occur. After the third week the throat was quite troublesome at times and various gargles were used.

On the ninth day the patient complained of pain in the lower bowel. There was a little tympanitis. Saline enemas were first used, afterwards high colonic flushings of soap suds with either turpentine ʒi or tr. asafetida ʒi to the quart. Hot turpentine stupes were applied to the abdomen. This treatment relieved the tympanitis but had no effect upon the pains. The bowels were cleared by calomel or salines as occasion required.

The cough continued most obstinately. No sedative seemed to reach it. Crushed ice relieved more than anything else for a time. External applications, sprays, gargles, internal medication, inhalations—all were tried with little or no effect. The continued coughing produced nausea, frequent vomiting and invariably intense pain in the abdomen. By the time the cough and pain had subsided the patient would be completely exhausted.

On the sixteenth day a severe intercostal neuralgia attacked the right side and the right arm. Fortunately this condition lasted but three days. The patient suffered intensely with every move, and when a paroxysm of coughing came on her distress was dreadful to witness. The pulse would become rapid, weak and irregular and the patient almost cyanosed but with no abnormal temperature.

At this time, having tried many anodynes with very indifferent results, morphia 1-16 to 1-8 grain was given by hypodermic once in twenty-four hours.

On the twenty-seventh day the patient was propped up in bed for a short time and gradually a soft diet was substituted for the liquid diet. Within a few days she could sit up in a chair for a few minutes and as soon as possible she was taken out into the bright warm sunshine in a wheel chair. It was springtime and ideal weather for an invalid.

The patient weighed 125 pounds when taken ill. Ten weeks later she weighed 103, had a good color, fair appetite, fair digestion, could take short walks and sat out of doors a good deal.

Regardless of this seeming progress once, twice and sometimes oftener in the twenty-four hours she would have this distressing cough and pain in the abdomen. The transverse colon seemed to be the seat of pain. Sometimes the pain and cough began simultaneously, sometimes the cough was followed by the pain and sometimes the pain came first, the cough coming later.

Hot applications were always promptly and vigorously applied. Various anodynes were substituted for the morphia but discarded one by one as useless or very ineffectual. We began with 1-16 grain of morphia and in four or five months we were using ¼-grain once or twice daily, always given by hypodermic. This amount did not quiet the pain altogether; it would gradually wear away after lasting from one to three hours. The morphia never produced sleep with this patient. On the contrary it made her quite talkative.

Thinking a change might benefit her greatly, the patient was taken to a beautiful, quiet place in Michigan before our oppressive Illinois summer began. Her father's summer home seemed an ideal place in which to gain health and strength. There, nature was lavishly beautiful. Woods, water and an invigorating atmosphere all lent their aid, but to very little purpose. The patient for a time slept and ate better and certainly did grow stronger. By the middle of the summer she could walk one or two miles at a time without undue fatigue.

The pain still persisted as severely as ever; the attacks seldom abating under one or two hours and sometimes much longer. There was an interval of about two weeks, in June, when the pain came only every other day or night—usually at night. Two or three times during this short respite we overcame the pain without the morphia and we began to hope the trouble was yielding. Not so. Back it came again with redoubled energy and at some time in every twenty-four hours there was a severe attack. The attacks almost always came on suddenly, often waking the patient out of a sound sleep.

The cough improved somewhat during the summer and while it did not cease entirely the attacks were not so severe nor so long.

We went to Michigan about the middle of June and the improvement, if improvement it could be called, lasted from the last of June until about the middle of August. Then the patient's appetite began to fail, she lost strength and occasionally would have to be in bed for a day or two at a time. The pain was the same old story often repeated.

From May until the last of August she was under treatment by a neurologist of Chicago. He saw the patient two or three times only, treating the case from a distance. One or two detailed reports were required of me every week and I received written instructions frequently.

An attack of diarrhea, with great prostration, necessitated advice from a local physician. At this time we were using from ½ to ¾ grains of morphia in the twenty-four hours. Our neurologist was not at all troubled about the morphia, considering it the least of two evils. The patient never asked for the hypodermic but once and was always willing to try other things, leaving the morphia as a last resort.

A change was made in physicians. The case was placed in care of a general practitioner of considerable note. There seemed a temporary improvement for a very short time. The morphia was gradually cut down but the pain was as stubborn as ever.

The third week in September we returned home. The patient was still able to be up but not nearly so strong as in the earlier part of the summer. It did seem that one who had so faithfully and uncomplainingly swallowed all sorts of nauseous doses; had had fly blisters that were cruel to look at; had had things rubbed in and rubbed on; had had diets of all sorts and sizes and sometimes almost no diet at all was deserving a better fate than this. Seemingly

"Doctors great and doctors small
Had done her no good at all."

The patient through it all was usually cheerful, trustful and confident of recovery. She took a lively interest in all around her, enjoyed reading and was ready to do anything her strength would allow.

Never once do I remember her being irritable or fault-finding. She always seemed to think everyone was doing his very best for her. Occasionally when in severe pain a few tears would come but she would smile through them and tell you as soon as she began to feel relief. When not suffering, her troubles were seldom spoken of by her. Her sunny temperament and well-trained will helped her to surmount many a "hill of difficulty."

True, this patient had no responsibilities, did not have to consider the where-with-all and had a devoted father and mother always watchful for her welfare. All this was very much in her favor and its benefits can not be overestimated, but at the same time suffering is suffering whether in comfortable surroundings or in poverty. The man or woman who can bear bravely a long period of suffering and still remain sweet and unselfish, has a character very much to be admired and respected. My patient helped herself more than anyone ever helped her.

However, I have wandered from my subject. As before stated, we reached home in September and early in October we took the patient to Johns Hopkins Hospital, where for four months she was under treatment by Dr. Osler. My duties were at an end upon arriving at the hospital and what I know of the case from then on I learned from the patient. It is not necessary to state that no more hypodermics of morphia were given after her arrival at the hospital. Something else, I do not know what, was substituted which worked equally well. The patient was put to bed for six or eight weeks and a milk and egg diet was forced as much as possible. Friends and relatives were excluded, though the patient was allowed to write letters when able. A week or so after arriving at the hospital a persistent diarrhea set in again and continued over quite a period. High colonic flushings were used for the bowels and cold packs for the pains. As the patient expressed it she almost lived in cold packs for weeks.

At first she lost flesh rapidly and as no cause could be found for the continued pains a gynecologist made a thorough examination and pronounced all the pelvic organs in good condition. After a time she began to gain flesh and continued to do so. The pains became less severe and less frequent and the cough was not so troublesome. In four months she was discharged from the hospital, not cured but certainly much better.

The cough and pain persisted, though not severely, for several months, and gradually left with only an occasional reminder of old times.

In all our good old-fashioned fairy tales the heroines always came through all their trials triumphantly and "got married and lived happily ever afterward."

So endeth this tale of mine. Miss Patient "got married" and for the past year and a half has enjoyed average health and much happiness in her new home.

AMONG the well to do an enormous quantity of moist dirt is conveyed on shoes and skirts into houses to be warmed, dried, and finally inhaled. Moreover, dust laden street air enters the windows in summer and the cold air boxes of furnaces in winter to be also warmed, dried, and distributed throughout the dwellings to the lungs often of delicate persons or those who are compelled to remain in confined, overcrowded workrooms, living rooms, and sleeping rooms.—DR. W. GILMAN THOMPSON, in *N. Y. Med. Jour.*

THE NURSING OF CHILDREN.

BY MISS MINNIE GOODNOW,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

(*Continued from page 562*)

NURSING IN ABNORMAL OR DISEASED CONDITIONS

A VERY large percentage of the disorders of young babies is due to digestive disturbances. If allowed to persist, they are commonly fatal, while if proper care is given, most of the troubles may be corrected.

Keeping up the child's general nutrition is the all-important matter. Let the nurse get it thoroughly into her mind that medication is almost valueless for children, except to tide over an acute condition. Intelligent watching and correctly given treatment are the things which count. It is care, not drugs, which saves lives.

The first essential in the nursing of a sick infant is accurate and systematic observation. This is the foundation of all diagnosis and treatment, and is the place in which the nurse's work is of prime importance; carelessness or inaccuracy on her part may lead to fatal mistakes on the part of the physician.

The second essential is exactness in the carrying out of orders. It is this precision in all things which constitutes the chief difference between a trained and an untrained nurse. Every nurse who undertakes the care of a baby should realize this, and know that while experience may do much for her, accuracy and keen observation will do more.

Holt's schedule of what to observe is so good that it can hardly be improved upon as an outline. It is as follows:

Weight. (Note gain or loss.)

Stools. (Character and frequency.)

Vomiting or regurgitation. (When and how much?)

Flatulence or colic.

Appetite. (Is the food given enough or too much?)

Is the child comfortable and good-tempered?

Amount of sleep.

WEIGHT.

The child's weight is significant, and should be determined with exactness, at first daily, afterwards weekly. A weight chart, kept like a temperature chart, is advisable, as it gives a graphic picture of conditions. The child should be weighed at the same hour on each occasion, preferably just before nursing, and always without clothing.

While it is at times true that a child may gain in weight and yet not be in good condition, the converse is never the case. If it is losing weight, or does not gain for any length of time, something is radically wrong.

STOOLS.

The bowel movements are an important index of the child's condition. The number in twenty-four hours should be noted and a record kept of their color, consistency, and amount. Their character may change very materially in a short time, and the average for the twenty-four hours is to be taken as a standard.

A normal stool for a young baby is a mass of bright yellow particles of the consistency of soft cottage cheese; the odor is characteristic, but not offensive. Green movements, or green streaks, should be noted. Brown or brownish yellow stools are abnormal, as are also white or clay-colored stools. Any tendency toward a formed stool is wrong, likewise a liquid movement. Hard masses or blood are often indicative of serious trouble. Mucus in any quantity should be noted. Foul odor or much odor of any sort is abnormal. The stools should not cause chafing or irritation. Tiny white curds may be considered normal, but if they are large enough to be conspicuous, their presence should be reported.

VOMITING OR REGURGITATION.

Regurgitation of food may or may not be of importance. Remember that a small baby almost never vomits, with retching; if it does, the symptom is a serious one. Regurgitation is usually due to too rapid feeding; it may also be caused by overfeeding, handling after food is given, hiccough, tight clothing, etc.; all these conditions should be thought of and remedied.

The character of the vomited material is significant; note whether it is in large curds, or small, or fluid with no curds. Observe the quantity, whether it is the entire amount of food which is taken, or only a few mouthfuls. The time of its occurrence should also be noted, whether immediately upon finishing a meal, five minutes later, or half an hour.

For regurgitation occurring after breast feeding, for which none of the above causes can be assigned, try giving a little water (half an ounce) a few minutes before nursing. If, after all other causes have been eliminated, the regurgitation is plainly due to the food disagreeing, the physician must direct the treatment.

COLIC.

Flatulence or colic is sometimes difficult to distinguish; but thoughtful, systematic watching will usually decide the matter. Its characteristic symptoms are a sharp, sudden cry, accompanied by kicking or drawing up of the legs. A continuous, persistent cry is rarely due to colic. The abdomen is usually found distended, and rumbling or gurgling in the intestines may be heard. The child may belch or pass flatus from the rectum, in which case the pain is relieved temporarily.

Colic may or may not be a serious symptom. With some babies a slight indigestion makes very little difference, (hence the notion that "a colicky baby is always healthy"). With others, colic may accompany malnutrition of the worst sort.

When a nurse has convinced herself that colic is present, she may try the simpler methods of relieving it. Warm water to drink and a hot water bag under the abdomen with the child on its face, accompanied perhaps by a little gentle patting, is sufficient in mild cases. An enema of warm water, or better, milk of asafetida (a teaspoonful to an ounce of water), is almost invariably effective. One or two drops of essence of peppermint, or 5 to 10 drops of milk of asafetida may be given in a little water by mouth. Whiskey, brandy, paregoric, or other drugs must never be given without a special order from a physician.

APPETITE.

The condition of the appetite carries as much weight in the case of a baby as with an older child. One should distinguish, however, between simple sleepiness and lack of appetite; a child may, if permitted, habitually sleep at the breast and later cry from hunger which is mistaken for colic. The mother should be cautioned in regard to these things. A bottle baby should always be fed, even in a hospital where the nurse may be pressed for time. The common practice of leaving a small baby alone with its bottle cannot be too strongly condemned, as it is often productive of serious results. Better leave almost anything else undone than neglect proper feeding.

As a rule, the less the child weighs, the less food it needs; for example, a baby which weighs but six pounds will require a smaller quantity of food than one of the same age which weighs ten pounds. Individual characteristics also influence appetite. If, however, a baby is really not hungry at the proper hours, it is a matter of considerable moment, and should be reported.

It is quite possible for a child to eat ravenously and still be improperly nourished. This is particularly true in marasmus cases. The physician may then order less food or more dilute food, and the nurse must explain the reasons for it to the mother.

Considerable discussion is now taking place in regard to the amount of food necessary. Rotch and Holt, two of the best authorities in this country, advise systematic overfeeding in cases of malnutrition. Prominent men abroad and such men as Winters of New York and Brennemann of Chicago advocate less food, and especially less frequent feeding. These latter claim that every four hours is often enough to give food in the beginning weeks, and that in a few months three meals a day are sufficient. They tell us that it is the customary excess, particularly the excess of fat, which causes digestive disturbances. A series of thoughtful observations by a nurse on this point might be of interest and value.

All authorities agree that mother's milk, whenever obtainable, is the ideal food. This is so, not simply because of its chemical composition, but because it contains certain enzymes or ferments which aid materially in nutrition. There are no substitutes for these life-giving principles.

Of artificial foods, "modified" milk is unquestionably the best, providing it is prescribed and prepared with exactness. Only the purest and cleanest milk should be used. Milk from a herd is better than that from one cow. The Holstein breed is preferable, the much-vaunted Jersey being too prone to disease, and the milk deficient in proteid. When the physician writes his formula of "milk, cream," etc., he should be asked to explain just what he means by each term—whether the milk means whole milk or skimmed, whether the cream is to be obtained by rising or by separating, if "top milk" is specified whether it means the seven top ounces or ten, etc. No one unacquainted with scientific baby feeding can realize the vital import of these details.

COMFORT AND TEMPER.

Note whether the baby is good-tempered and seems comfortable, or if it is fretful and disturbed. Remember that disposition must be taken into account and that this is an opportunity for intelligent study. Remember also that a child may be listless from weakness and poor condition, and that a "good" baby may be too sick to cry. The seemingly unimportant items of position in bed and clothing are so closely connected with temper that no one but a skilled nurse is competent to judge in this matter.

SLEEP.

The amount of sleep should be made a matter of note. A young baby should sleep nearly all of the time, and even at the age of six months not less than 16 to 18 hours per day is required. Disturbed sleep is commonly due to digestive troubles; it may be due to nervousness from handling, rocking, to lack of fresh air, to cold or dampness. It may also be a symptom of actual illness. In any event, it is not the symptom which requires treatment; but the cause should be discovered and removed.

In all these matters—which though commonplace, are none the less momentous—the nurse's work is all-important, and it is to her that the physician looks for his ablest assistance. Nowhere more than in the care of young infants does faithfulness count. Vigilance and precision here save lives which were otherwise lost to the mother and the world.

(*To be continued.*)

THE DIET THAT CURES.

BY MISS B. MORDAUNT-WILSON.

County Hospital, Los Angeles, California.

> "The good I *might* have done
> The human sorrow and smart."

TYPHOID is a peculiarly interesting disease and perhaps my observations with regard to it may be acceptable to those who have had similar experience. I have observed typhoid patients under different nurses and doctors, but the period I shall describe relates to a time when a certain nurse had charge of such patients and I was in a position where I could observe ***her***. I first noticed the satisfied expression on the faces of all the patients over whom she had charge; they lay in bed at peace with themselves and all the world. Now as this was rather unusual, especially in typhoid cases, I wondered. Why? So I studied the situation and found it was all in the nourishment. The nurse had the knowledge and the will to make everything appetizing. She never hurried with her cooking; she was never out of supplies; she never gave the same food twice running. Her seasonings were perfect; her eggs always round and golden, never running and broken over the toast. The liquid stage in typhoid found her at her best; her egg-nogs, lemon-albumens, etc., were always taken by the patients to the last drop; expectation sat on every face as the minutes drew on apace; it was amusing, interesting, maybe a little pathetic. She never relegated her work to any Junior; her preparation for her diets was the poetry of cooking; a clean diet-kitchen; everything to her hand; everything in good condition, and no hurry, no waste. The result—every patient making wonderful strides towards recovery. I have seen the other side of the picture, so I jot down these remarks because it is the easiest thing in the world for a nurse to overlook the importance of variety and tastiness in the liquids and solids served to the sick; and perhaps it will cause other nurses who read this paper and have the best good of their patients at heart to study up the subject for themselves. In the stress of work it is so easy to overlook the main thing.

Typhoid, as we all know, is a long wearing sickness, and the patient who is reduced to such an extent that it will take very many months to "make a man of him again" is indeed in a forlorn condition: for he is not able if he be a workingman without capital to secure the care that he needs after he leaves the hospital; the result is that instead of supporting the state he becomes one of its beneficiaries.

> Evil *is* wrought by want of thought
> As well as want of heart.

A FEW POINTS THAT MAY BE OVERLOOKED.

Reprinted from the *National Hospital Record*.

IN responding to your request for an expression of opinion on some phases of the training problem, I have chosen one phase on which less is written than, in my estimation, the importance of the question demands. I shall write over a pseudonym, not because I am not willing to come out in the open and say the same things, but because there are some questions which will be more impartially considered, if disassociated from any personality. Nurses, as a class, are far too apt to follow personalities rather than principle, to accept ready-made opinions rather than to think things through for themselves and see where they will come out. They are too ready to follow a rally and cry without stopping to think how the thing they are doing will affect society as a whole, or even nurses as a class. If a nurse is a graduate of a prominent hospital, or her name is seen frequently in print, they are apt to give more weight to her opinions than to some one else equally capable and sensible and gifted, of whom they have heard less, so I shall simply style myself A. B.

We hear a great deal in this day and age about affiliation between training schools. While admitting that affiliation is a good thing, it is a theory that can never and will never be carried out to any great extent. Each school must study its own situation and needs and very largely work out its own salvation.

When I was in training quite a number of years ago in a city hospital that at that time had fifty-five beds, we were sent out during the last year on special duty in private homes. We had a two years' course. In my senior year I was sent out to seven cases. One of these cases lasted about a month, two lasted two weeks, the others one week each. In all I had a little less than three months' experience in private nursing before I graduated. I had seven cases which were my very own. The first case was temporary insanity; the second, pneumonia; the third, diphtheria; the fourth and fifth, maternity; the sixth, pneumonia, and the seventh, typhoid fever. Besides these I attended six cases of labor in private homes (mostly of small wage earners), being present through the labor and remaining only until the mother and child were comfortable.

For the services of its pupil nurses the hospital charged, when the people could afford to pay, $8 a week. It made no charge for assistance at childbirth unless the nurse had to remain. The physicians made the arrangements for the obstetrical cases solely for teaching purposes, and we were eager for the experience, though we had a maternity ward in the hospital. We welcomed the outside work because it threw us on our own responsibility.

In round numbers the hospital received sixty-five dollars for my services in those seven homes. The typhoid case, which lasted a month, paid nothing. Perhaps the hospital was influenced by purely mercenary motives. As pupils we never bothered very much about that because we all found the private duty experience so valuable and we all wanted it. We felt it a great promotion when we were told to get ready to go on our first case.

Whatever the hospital's motives may have been I know that there never has been a time since when I have not been glad I had that experience before graduation. Talk of selling the experience I gained for sixty-five dollars! Never in my most poverty-stricken periods would I have been without it for many times that amount. The hospital paid me an allowance of $8 a month that year, and furnished my uniforms, counting the uniforms at $10, and subtracting that and the $24 it paid me for the three months I was on private duty, it really was not $65 richer for my work in those homes. It was only about $30 ahead. The gain in the case was certainly on my side, and I believe every nurse in the school felt the same way.

Suppose we did miss a lecture occasionally. We could easily make up what we lost in that way. We were getting new experience with life as it is lived in homes of all kinds. It was a break in the monotony of training. We came in contact with different physicians and learned their methods. We had to put up with all sorts of inconveniences. If we had been inclined to be discontented with our lot in the hospital we came back to it with a greater appreciation of what it was doing for us. It was always a delightful home-coming. We were glad to go and equally glad to come back and take up the routine of daily work. We came back full of questions which we had been longing to ask while on the case, and which we had not asked because we were generally supposed by the family to know all that was worth knowing about the business we were in, and because we did not want to display our defects to the strange doctor. We did not know it all, but we were learning, and we knew enough to do good, faithful work on the kind of cases to which we were sent.

Because this experience was so valuable for me I have wished it might be more generally and impartially considered in working out the training school problems of the smaller hospitals and training schools. Affiliation with other schools is not always possible, but this broadening experience is possible in probably the majority of hospitals. It has been discontinued largely because of the cry raised by graduate nurses about the cutting of rates. That stroke of business is one worthy of the dishwashers' union. It is utterly unworthy of people who claim to belong to a "profession." That clause in the New York registration bill (I have not the bill before me and may not get the wording exactly as it stands) which refers to "hospitals that wish to make money by sending pupil nurses into private homes" is so petty and puerile as to be ridiculous. The wonder is that the hospitals of New York State have not arisen in their might long before this and swept that clause off the statutes. It is a hindrance to real progress and it handicaps many hospitals in their efforts to do the best for their pupil nurses.

I know that our superintendent had to do a good deal of readjusting of her plans to give us this broader training, but we are thankful she was willing to do it. The experience on the diphtheria case I nursed was worth more to me than a score of lectures on the subject. It is not to be compared to them. To watch that membrane in that throat from day to day and deal with a petted, spoiled 5-year-old baby, to be left to my own resources, was worth more than a month of routine ward work in the hospital, where I did the same things in the same way, day after day. To deal with a maternity case in the hospital with plenty of disinfectants, sterilized dressings and appliances of all kinds at hand, was valuable experience, but to go into a two-room shanty out in a cornfield on the edge of the town and welcome a little red-headed baby, feel the poverty, see their odd ways and receive the fervent "Blessin's on ye, miss. Shure 'tis a darlint ye are. I hope ye'll marry a doctor," from its Irish grandmother, was certainly worth fully as much to me, according to my way of reckoning values. I am very glad I had both kinds of experience.

Since the graduate nurses (I happen to be one, though I disclaim ever protesting against pupil nurses doing private duty), but since the graduate nurses have set themselves against hospitals allowing pupil nurses to do this kind of work, the correspondence schools of nursing have increased fourfold and more. They have had practically no opposition. Instead of hospital trained nurses trying to hold the field for themselves by assisting as far as practicable before graduation in meeting this need in homes of people of limited incomes, they have maintained a veritable dog-in-the-manger attitude. They would not nurse those people themselves for the price they could afford to pay, and they have done all in their power to prevent the hospitals or any others from meeting the need. The "noble profession" to which I belong is just about as far advanced in trades union tactics as it can go and "the war of the classes" is just as inevitable sooner or later, is just as sure to come as that it has come in the labor situation.

Few intelligent people maintain that the trained nurse does not earn all the money she gets; but they do maintain that she has no more right to prevent a hospital from letting its pupils gain this additional experience and work out its training problem in view of the needs of the community from which it draws its patronage and support, than a band of printers has to say that because they will not work for less than a certain scale, therefore the printing offices must close their shops or they will make war on the men whom they secure to work for them. It is precisely the same principle, parading in the name of education.

Every year at the convention of nurses the old subject of how to provide nurses for people of limited incomes appears on the program. To the onlooker it must seem pharisaical that it should be so. Could anything be more inconsistent in view of the attitude they have assumed than that they should appear to be solicitous about the matter. It reminds one of the old woman who prayed: "O Lord, send the gospel to the heathen, but, O Lord, don't let a nigger come near me, for I can't abide niggers."

The solicitude of the graduate nurses of the United States (and I am glad I am one) might be interpreted in precisely the same terms. Virtually they have said: "O Lord, devise some way of nursing these people, who can't pay very much. We want them taken care of, but we are firmly resolved not to work for them for less than a certain sum. It would lower our standard, and we would prefer to remain idle rather than go to them. We hope they will be cared for somehow, but we will do all in our power to prevent the hospitals letting their pupil nurses go to their relief."

In the name of consistency, that subject ought never again to appear on a program at a nurses' convention till they have dropped their trades union tactics and changed their entire policy in the matter.

The graduate nurses from the hospital in which I trained found that beyond the valuable experience gained in private homes, while still in training, it paid many of them in good hard cash in this way. A great many people who had never felt they could afford a trained nurse, were glad to accept the doctor's suggestion and get a hospital nurse at the reduced price. If her service in the home was satisfactory they recommended her to their friends, or they engaged her for a maternity case after graduation or some operation which they were contemplating. Having learned the advantage of skilled care, they would make extra effort to pay her the price she asked after graduation and persuaded their friends to employ her because they liked her. In this way it was a great advantage to nurses who expected to settle in the community where they were trained. Most of our nurses were able to book cases ahead, and get work immediately on graduation, which is certainly an immense advantage to a nurse at that time. They got work which they never would have had if the hospital had not allowed them to have this experience in private homes before graduation.

A most valuable part of the training was the "hustling" we had to do when called to a case. It was a fixed principle with our superintendent that we had to have our wardrobe ready for emergency calls in that last year, and that not a minute was to be lost in getting to a case. If we could not get ready to go to an obstetrical case in fifteen minutes we were likely to be told we could not go. There was no dilly-dallying. No excuses were accepted. We had to get there as quickly as it was possible. If we did not report in the office with our suit case in hand ready for orders in a very short time after we received notice to get ready, we knew the superintendent would be after us to see why we delayed or we would be told some one else had been sent in our place.

This kind of experience and training the nurses of to-day sadly need. Ask the members of the medical profession who employ graduate nurses if this is not true. No amount of theoretical teaching, no amount of ward instruction, will take the place of this actual drill. It counts a good deal more in a nurse's success than many of them realize, this prompt response to calls. Having to "hustle," this training was alone worth dollars to our graduates.

We had no contagious ward in the hospital. Few of the hospitals in the smaller towns and cities have. The only experience we got in nursing contagious cases was what we got in the homes. A great difficulty a great many hospitals encounter in their training problem is the difficulty of providing experience in maternity work and contagious nursing. Why should not such hospitals organize an out-patient department, and, since such cases cannot or will not come to the hospital let the hospital, through its pupil nurses, go to them. Talk about laboratory courses for nurses in pathological laboratories! I have nothing against laboratory teaching unless it is carried too far, but what would a year of such teaching amount to in practical value to the nurse as compared to the opportunity to nurse a couple of diphtheria or scarlet fever cases.

The main difficulty in organizing this out-patient department is in our slowness to avail ourselves of the material for training that lies within the reach of every hospital; and the despicable bit of legislation that black lists a hospital and its graduates because it has attempted to give its nurses this practical experience.

If it was doing the graduate nurses of the country any good we would not feel so strongly on the question. But it has left a wide open field for correspondence and short course schools that has made it vastly more difficult, both for graduate nurses to keep busy and for hospitals to keep up the number of pupils in the training school.

A. B.

MEDICAL CHARITIES IN NEW YORK CITY. IV.*

(*Continued from page* 565.)

NURSING.

It has been suggested that hospitals, as charitable institutions, should be limited to those of the sick poor who are without homes, and that every effort should be made to improve the conditions in the homes of the poor in order that home treatment may be given more generally than is possible at present.

Whether or not this is to be a feature in tenement house reform, the future development in medical charities, indicated by the extension of district nursing, will at least be a large factor in removing from the poor who have homes the necessity of going to a hospital. One authority points out that a person who is a hospital patient from a medical point of view may not be a hospital patient from a social point of view; the mere presence of the father or mother in the home serving frequently to hold a family together. Visiting nursing has proven that the number of poor patients who can be successfully treated in their homes is larger than was supposed five years ago, although there are still many forms of illness which cannot be safely treated in unsanitary tenement houses and for which hospital care must be provided. Beyond the equipment for surgical treatment, which cannot be brought to the homes of the poor, the other advantages of the hospital are the constant medical supervision and nursing, and the clean condition of its wards. The bettering of the living conditions of the poor, the introduction of more light, more air and suitable sanitary conditions will further increase, therefore, the number for whom home treatment may be provided in the future.

Like other divisions of medical charities, the extension of visiting nursing has been along individual lines without organized co-operation of the various agencies which support it. Visiting nursing has always been an activity of certain religious bodies, but the history of the movement which sends regularly trained nurses into the homes of the poor is of recent origin. In America the first organization to carry on this work systematically was the woman's branch of the New York City Mission in 1877, an organization which now has ten trained nurses on its staff. The next organization to take it up was the Ethical Culture Society of New York City, which in 1888 placed nurses in three of New York's largest

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*This is the fourth article condensed from the study by Miss Florence L. Lattimore in the *New York State Journal of Medicine*.—Ed.

dispensaries, the Good Samaritan, the Northwestern, and the Demilt, where they are still maintained. These nurses receive their lists at the dispensary, and go on their round of calls, limiting their work to the patients of the dispensary with which each nurse is individually connected. The Henry Street Settlement, started in 1893 by two trained nurses, is one of the most complete nursing organizations in the City and to it the community is indebted for the emphasis given this branch of service by the New York Department of Health. This settlement has a corps of some twenty-seven nurses, of whom twenty-three are working in assigned districts which practically cover the Borough of Manhattan—one is in charge of a convalescent home at Grand View, New Jersey, one in the first aid room on the lower East side, and two do other work connected with the organization. These nurses respond to neighborhood calls and render service for nominal fees—ranging from ten to twenty-five cents for those who can pay. In 1904 there were 4,501 different patients visited, 35,035 nursing visits made and 3,521 convalescent visits. All diseases are cared for except contagious diseases, which are taken by the two or three nurses employed by the Department of Health for this special work. In this feature the New York Department of Health stands alone. The nurses receive their lists of calls at the Willard Parker Hospital Annex daily (except Sunday), and immediately start upon their rounds. If orders have been given by the physician in charge of a case they are attended to and a report left for him. It is the duty of the nurse to instruct the mother as to the care of the patient and to see that proper precautions are taken to prevent infection.

The system for the medical inspection of school children was adopted by the Department of Health in 1902. The system consisted of a regular morning inspection, by physicians appointed by the Department, of all children suspected by the teachers of having contagious disease, and a weekly examination of all children alike, whether well or ill. This led to a large number of exclusions of children having diseases of the eyes, scalp, skin, etc. No treatment was prescribed by the physicians, but an exclusion card, giving the diagnosis of the disease, was furnished the children for the information of their parents, the primary idea of this method being to protect the well child in school. It soon came to the attention of the Department of Health through the Department of Education that the children so excluded were in many instances not receiving the treatment which would enable them to return to the schools and that bad habits of truancy were being established. Some of the parents did not understand the exclusion card, others never received it, and still others saw nothing serious in the troubles for which the children were sent home.

The Department of Health decided that many of these neglected children could attend school if treatment were provided for them, and made the experiment of having a nurse give local treatment at the school of all cases which might, under strict supervision, remain in their classes. The trial was such a success that the Board of Estimate and Apportionment appropriated $30,000 for this work in 1903, and a staff of twenty-seven school nurses was established with a supervising nurse to assign the staff to the schools, make up the reports and to be responsible for the work done. They were assigned to 125 public and four parochial schools, with an attendance of 129,239 pupils—the schools being selected for inspection according to the number of exclusions in them under the former system. The number of children excluded in September, 1902, before the nurses were introduced, was 10,567. In September, 1903, after the nurses began their work, the number of exclusions was 1,101, a reduction of 9,466. The routine inspection, which was first done by physicians, is now carried on by the nurses, an arrangement which has given the physicians more time for the physical examination. An official of the Health Department has said that the professional labor of the physicians doing duty at the public schools should not be limited to the daily examination of children's heads and eyes, but should include a general physical examination in order to determine the basis for the high percentage of children who are backward in their studies, or who are absent from school on account of sickness and other causes. "About ninety per cent. of backward, incorrigible and truant children were found physically imperfect as regards their eyes, ears, nose, throat, nutriment, locomotive apparatus and other general bodily functions. Sixty per cent. of all school children are defective to a greater or less degree." The nurses inspect the hands, throat, hair, and eyes, taking down on cards the names of children for whom treatment is required; these cards being left for the entry of the diagnosis by the physician when he comes the next day. Cases of pediculosis, conjunctivitis, ringworm, impetigo, favus, molluscum contagiosum and scabies are treated by the nurse at the school after the physician has made the diagnosis. The medical inspectors leave the names of the excluded children with the clerks of the school and a copy of this list is furnished the school nurse that she may follow up these cases in their homes. Here the nurses have found conditions which furnish the key to many a breakdown which could not have been revealed by a mere school inspection. As the supervising nurse has said: "The care given to the children in the schools is the ameliorative, that given in the homes is the preventive part of the whole."

In the homes the nurse explains the situation, instructs the mother as to the best way of meeting it, and advises as to the necessity of calling a physician. If the family is too poor to afford a physician the nurse refers the patient to the proper dispensary, often going with the child to insure treatment. As long as a child is excluded from school the nurse continues her visits.

In 1904 fifty-two more schools were included in the inspection and the staff of nurses was increased to thirty-three. In 1905 the number of nurses was fifty and distributed as follows: in Manhattan thirty-one nurses in 128 public schools; in Bronx one nurse in eight schools. The rest are assigned to Brooklyn, Richmond and Queens. Twenty parochial schools and three industrial schools which have asked for such inspection have been granted it.

In November, 1904, the medical school inspectors began to test the vision of the school children with the result that 20 per cent. of the children examined showed defective sight. This discovery has led to a recommendation that the hearing of the children be tested also.

Following is a summary of the work done by the nurses during the year 1905:

Pediculosis	16,384
Trachoma (sent to dispensary)	80,050
Eye diseases	188,805
Scabies	2,805
Ringworm	21,111
Impetigo	13,491
Favus	2,645
Miscellaneous	50,669
Number of children examined	351,083
Tenements visited	40,070
Schools visited	25,943
Miscellaneous visits	1,344

Baths have been placed in fourteen schools in Manhattan and one in the Bronx, and they have been found to be useful adjuncts in the treatment of the children.

In the summer months—from June 20 to September 10—the school nurses are formed into what is known as the "summer corps," which makes a house to house canvass, through the tenement districts, for all children under one year of age. Sunstroke circulars and instructions for the proper care of infants are distributed in different languages, and these are supplemented by the nurses, who teach the mothers individually how to feed, bathe, clothe and otherwise care for the babies. If a baby is found needing special medical attention, one of the staff physicians makes daily visits as long as is necessary. About 270,000 families were so visited in 1904. In 1903 the Department opened dispensaries on five of the recreation piers, where physicians were in attendance every day, but Sunday, from three till five o'clock.

In this work of the physicians and nurses under the Department of Health there is wide co-operation with the charitable agencies for the relief of the poor. Ice and milk tickets are given away and fresh air organizations are brought into contact with those who need them most. Many tickets for trips on the floating hospitals of St. John's Guild are distributed in the hot months.

Medical inspection and school nursing are complementary to each other and mutually dependent where overcrowding and poverty exist. They present an allegiance which in New York is the strongest defensive and offensive alliance against the conditions which wreck the health of future citizens, and the value of the service they are rendering can scarecly be overestimated.

Through many channels beside those already mentioned does trained nursing now reach the poor. Forty-five distinct organizations which provide visiting nurses are listed in Manhattan and The Bronx, but they do not fully represent the number doing such work. There are many churches, factories and stores in which nurses are employed, and every year finds more attention being given to this special line of social endeavor. It is hoped that some day these organizations may be brought together for a better understanding of the conditions discovered and for a comparison of work done. Many cases of unsuspected destitution come to the attention of the visiting nurse—cases which would otherwise sink still lower but for her attention.

The Society of the Lying-In Hospital of the City of New York has an extensive outdoor system for destitute maternity cases. Through this outdoor department 61,120 visits were made to 2,766 patients in 1903-4, while 54,347 visits were made to 3,207 patients in 1904-5. The district work constitutes part of the course in obstetrics which the Lying-In Hospital offers to graduate and undergraduate medical students and also to nurses. Nurses from five hospitals in Manhattan and The Bronx, and twelve hospitals located elsewhere, are received at the Lying-In Hospital for this special training. The district work is carefully supervised by a member of the medical staff.

This hospital does valuable social work through its Ladies' Auxiliary, a body of 276 members divided into three committees: a committee for the relief of indoor patients, which secures work and proper lodgings for homeless women upon their discharge; a committee for the relief and care of outdoor patients, which provides a visiting agent and seven cleaning women who care for the family and rooms in addition to the patient, and supply clothing, milk, and groceries to those in great need (in 1904, 2,643 such families, and in 1905, 2,843 were relieved through the committee); a Committee on Ways and Means, which co-operates with various charitable employment agencies in hiring clothing made, that every baby leaving the hospital may be suitably clothed.

The poorest patients are given, by the medical staff, tickets which can be exchanged at the sub-station, 314 Broome Street, for oatmeal, tea, coffee, sugar, bread, and milk.

The data kept by the Lying-In Hospital show the exact living conditions in which the patient was found, the income, expenditure, employment and nationality of the family; all of which is recorded in detail. In the yearly report these facts are given, together with the birth-rate in the city at large, and pertinent facts regarding the immigration of those nationalities among which the work of the Society is chiefly done. The work done by the different services of the Society of the Lying-In Hospital is constantly contrasted with the extent of the conditions which it strives to mitigate.

A system of diet-kitchens has been established through the most congested parts of the City by the New York Diet-Kitchen Association. This Association has six branches through which milk and eggs are furnished the poor who bring signed orders from hospitals, dispensaries and relief giving agencies. Forty relief agencies co-operated with the Diet-Kitchen Association in 1904 and 25,000 patents were supplied with 198,072 quarts of milk—an average of nearly eight quarts each. It is the only organized charity whose chief purpose is to furnish clean milk to the sick poor. Especially valuable have these diet-kitchens become to the dispensaries for tuberculosis, which refer their patients to the nearest kitchen for daily supplies of milk and eggs—the usual amount being two quarts of milk and four eggs to each patient. The Department of Health in 1905 gave a certain amount toward the expense to which the kitchens were put in supplying nourishment to the patients from its tuberculosis clinic.

A great deal of work is done by the kitchens towards the protection of infants and young children from the dangers of impure milk sold throughout the city. The Department of Health has carried on as active a campaign against this danger as is possible with its limited force of milk inspectors, but the sickness and mortality from this cause remain very high. The Diet-Kitchen Association was able to supply modified milk for a limited number of babies in 1904, and reached a far greater number in 1905, when its kitchens were made the distributing centres for the modified milk supplied by the Department of Health. The usefulness of the kitchens is greatly furthered by the visits made by the matrons to the homes of those presenting requisitions for milk. The kitchens are closed at one o'clock and the afternoon is thus left free for visiting. Not only is the matron able to learn whether the nourishment reaches the person for whom it is meant, and the status of the family, but she has come to be a neighborhood friend and a channel for much sound advice and help. She is also the distributor of such material relief as is given to her for this purpose.

(*To be continued.*)

THE DOCTORS HAVE THEIR TROUBLES TOO.

NURSES who have toiled long and wearily to secure State registration may derive a melancholy solace from the fact that the medical profession has had to meet more and stronger opposition in its fight for State control. In one State, at least, it seems that the nurses have far out-distanced the doctors in the campaign for recognition, as related in the *Journal of the American Medical Association:*

The North Carolina legislature has passed an act providing for the examination and registration of trained nurses. An examining board is established to examine all applicants of good moral character, who are more than twenty-one years of age, who have received the equivalent of a high-school education and who have graduated from a training school connected with a general hospital or sanitarium where three years' training in nursing is given. Examinations are held on the elements of anatomy, physiology and materia medica and also on medical, surgical, obstetric and practical nursing, invalid cookery and hygiene. The board is empowered to issue a license without examination if it deems it advisable.

The *Charlotte Medical Journal,* commenting on this bill and on the refusal of the State legislature to pass the medical practice bill asked for by the profession of the State, says:

As a sample of stupendous inconsistency we have rarely seen anything that approaches the attitude of the legislature toward two professions so closely allied. The senate bill to raise the standard of preliminary qualifications of medical applicants required that those who desire to obtain a license to practice medicine in this State should have received the equivalent of a high-school education, yet the rulers of our commonwealth oppose a law which will give them better doctors, while they pass a bill requiring nurses to be more highly educated than physicians.

CORRESPONDENCE.

Editor of the Gazette:

In the celebration of Old Home Week in Buffalo the nurses had their part.

Mrs. Davenport, chairman of the Women's Auxiliary, asked that the Nurses' City Club, at 147 Niagara Street, conducted by Misses Cole and Poole, be headquarters and keep open house for nurses. The club house is only two blocks from the McKinley monument and a close neighbor to the other women's clubs, which also kept open house that week.

A committee was selected, consisting of the superintendents of the training schools and the presidents of the nursing organizations of the city. Tea was served each afternoon, and on Wednesday the Women's Auxiliary presented a musical program, followed by a large reception.

The Red Cross Society used the spacious lawn as a Rest Station, and we were kindly loaned several Red Cross flags to use as decorations. The pole on the house had the honor of supporting an immense flag which was used in the war with Spain. Crosses cut from red felt, strung on black silk, were used for the interior decoration. Friday afternoon a parlor talk was given by Charles Willard Hurd, State Field Agent, on the organization, present work, and plans for the future of the Red Cross. A.

Buffalo, N. Y., Sept. 10, 1907.

A Few Questions on Diet.

Editor of the Gazette:

Will you kindly answer the following questions in the columns of the Dietetic and Hygienic Gazette?

1. Do you consider griddle cakes wholesome? Give reasons.

2. Name four easily digested albuminoids, not including eggs and chicken.

3. What part do albuminoids supply in the system?

4. Name easily digested vegetables.

5. Of what use are vegetables in the system?

6. Are fats essential in a perfect diet?

7. Why are lard, tallow, etc., unwholesome?

8. Why are fruits beneficial? Name the easily digested ones.

9. Does the addition of sugar to fruits increase their digestibility?

10. What are the chief ingredients in fruits?

11. Mention five important things to be considered in feeding the sick.

12. How may milk be contaminated?

13. Mention four advantages of milk as a food.

14. State the composition, digestibility, food value and use of ice cream for invalids.

Thanking you in advance, sincerely,

S. J. S.

Hartford, Conn.

Answer.—1. No. Frying renders them less digestible than baked dough. While hot they are likely to form a sticky mass not easily penetrated by the digestive juices. 2. Casein, gluten, myosin, legumin. 3. Primarily, they build and repair the nitrogenous tissues and fluids of our bodies. 4. Tomato, onion, asparagus, parsnip. 5. A source of carbohydrates and salts. They are generally laxative and antiscorbutic. 6. Yes. 7. An excess of fat forms an impermeable coating on the surface of the food particles and the lining of the digestive tract, preventing digestion. Undigested fat may decompose into irritating acids. 8. By virtue of their acids and organic salts. Oranges, grapes, dates, prunes, pineapples. 9. No. 10. Carbohydrates, cellulose, pectose, acids and organic salts. 11. Attractiveness, wholesomeness, variety, sufficiency, regularity. 12. By a foul udder, dirty hands, dust, unclean cans or bottles, water, ice, dirty refrigerators, flies, cups or other utensils that have been used without previous cleansing. 13. Digestibility, contains all the foodstuffs in fair proportions, easily prepared, adapted to all ages. 14. Ice cream made from pure ingredients is just as digestible as milk itself and often more acceptable to invalids. It may be given frequently, but should be eaten slowly. As to composition, it is advisable to use nothing but pure milk and cream, with such flavor as may be desired.

Very extensive pigmentation of the skin may occur in Graves' disease, and also sometimes in chronic Bright's disease. Hence this condition is not by itself sufficient for a diagnosis of Addison's disease.

LATENT TUBERCULOSIS.

Trousseau says: "If you have a case of anæmia which resists treatment by iron, always suspect tubercle or syphilis."

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

Report Stools Accurately.—What the patient describes as a diarrhea may be, instead, a fecal stained mucoid discharge due to the irritation from impacted feces in the rectum.—*Amer. Jour. Surgery.*

Absolute Rest in Spinal Lesions.—In a case of possible fracture or dislocation of the spine, give instructions that the patient be kept absolutely quiet in order to prevent an aggravation of the deformity.—*Amer. Jour. Surgery.*

Don't Diagnose.—A question was recently asked in the House of Commons concerning two children excluded from school on the certificate of a nurse that they were suffering from ringworm, which proved to be incorrect. Diagnosis is no part of a nurse's duty, and she should never undertake it.—*British Journal of Nursing.*

Dry Mouth.—For dryness of the buccal mucous membrane such as occurs in various febrile or other long illnesses, glycerine and water, in the proportion of one of the former to five of the latter, is very effective. A little lemon juice makes the mixture more palatable. Another useful preparation in similar circumstances is linseed tea with a little glycerine.—*Hospital.*

Rectal Troubles.—Patients who have trouble about the rectum should, as a rule, evacuate their bowels at night, Then they have eight to ten hours in the horizontal position, and the bowel has time to readjust itself by the time of rising. This is particularly applicable to those who have to leave home at a certain time every morning.—Mr. Christopher Heath, in *Hospital.*

Contagiousness of "Colds."—"Acute rhinitis is, in my opinion, a contagious disease, communicable from one person to another. Since it may be such a serious and dangerous disease in infancy, babies should be kept away from adults and older children suffering from 'colds' almost as carefully as from those with the eruptive diseases. Fresh air, either in the house or out of doors, does not cause rhinitis, but is, next to the avoidance of exposure to other cases, the best preventive."—Dr. John Lovett Morse, in *Detroit Medical Journal.*

Prophylaxis of Bed Sores.—In passing through a ward in an Irish hospital it was found that, although many of the patients had been in bed for years, they were afflicted in no way with bruised or broken skin, as a result of being bedridden.

In answer to a surprised inquiry, it was stated that their backs were freely lathered with Castile soap, the lather being allowed to dry on the skin. This lathering was frequently repeated and, in spite of other neglects to which the sufferers were subjected, a bedsore was never known of in the ward.—*National Hospital Record.*

Scarlet Fever Prophylaxis. — Prophylaxis against scarlet fever is essentially the problem of isolation of the patient during the whole period of sickness and desquamation, combined with the utmost cleanliness and disinfection during and after the termination of the case. Inadequate isolation —allowing the patient while still in an infectious state to associate with susceptible persons in the home or outside—is unquestionably the principal factor in the extension of epidemics. And this follows in many cases because the sickroom in the average city apartment becomes as irksome as a prison long before the necessary six or seven weeks' confinement is past. If the patient has not an ideal room, with plenty of light and good ventilation, and with equable heat in cold weather, and a wise attendant, he ought to be taken to a hospital.—*Chicago Health Bulletin.*

Method of Transmission of Contagious Diseases.—The following extract, translated from a circular issued by the Public Health Department of France, contains information in so succinct a form as to make it worthy of reprint in the *Bulletin of the New Ycrk State Department of Health.*

The transmission of contagious diseases can be brought about in a direct manner by the immediate contact of a sick person with one who is well; or in an indirect manner, and in this latter case the germ requires some sort of vehicle; for example, water transmits the typhoid bacillus; clothing carries the germ of smallpox, etc.

I. Transmisson by the Discharges from the Sick; by Certain Products of Secretion and by Infected Blood.

A. Diseases transmitted by fecal matter.
  Typhoid fever. (Discharges from the bowels, urine and sputum.)
  Dysentery. (Discharges from the bowels.)
  Cholera and choleraic diseases. (Discharges from the bowels and vomited matters.)
B. Diseases transmitted by the secretions of the respiratory tract. (Expectoration, sputum, etc.)
  Scarlet fever. (Secretions from the nose and throat. Fragments of the skin during desquamation can also transmit the disease.)
  Measles. (Discharges secreted by the eyes, the nose, the pharynx and the bronchi.)
  Diphtheria and diphtheritic membrane. (Secretions from the nose, throat, etc.)
  Pneumonic plague. (Sputum and the nasal secretions.)

Epidemic cerebro-spinal meningitis. (The mucus from the cheeks and nose.)
Pulmonary tuberculosis. (Dried sputum and moist particles of sputum thrown out in coughing. Sometimes fecal matter and the products of suppuration.)
Whooping cough. (Expectoration.)
Pneumonia and broncho-pneumonia. (Sputum.)
Mumps. (Mucus discharges from the mouth and nose.)

C. Diseases transmitted by secretions, suppuration and desquamation.
Smallpox. (Discharges from pustules and particularly the dried crusts.)
Scarlet fever. (Fragments of the skin during desquamation.) [See also above.]
Bubonic plague. (The matter from ulcerated or gangrenous pustules and from buboes.)
Puerperal infection. (Vaginal secretions, pus, lochia.)
Purulent ophthalmia in the newborn. (Pus from the child's eyes.)
Erysipelas. (Serous discharges and particles of skin detaching from the inflamed surfaces.)
Scurf or Head Scall. (Scales from the hairy scalp.)
Purulent conjunctivitis and granular ophthalmia. (The secretions from the eyes.)

D. Diseases transmitted by the infected blood of a patient. (Carried by certain small animals or parasites.)
Plague. (Rats, fleas.)
Yellow fever. (Mosquitoes.)
Exanthematic typhus. (Fleas, lice, bedbugs, etc.)
Probably leprosy. (Fleas, lice, spiders, etc.)

II. Transmission by Objects Which Have Been Soiled by Secretions or Discharges.
The patient's blood.
His clothing and linen. (Handkerchiefs and underwear and bed clothing.)
Toilet articles and household utensils. (Drinking glasses, cups, teaspoons, plates, sponges, etc. Playthings, books, pencils, pens, etc.)
Walls and furniture. (Bed, chairs, carpet, curtains, walls, doors, windows, etc.)
The seat and framework of latrines or water closets which have been soiled by the excrements of the patient.
Holes or ditches into which his discharges have been thrown.
Washwater used in the toilet or baths given the patient. From the rinsing of utensils used by him, from the cleansing of the room, from the washing of linen. Water from a stream, well or cistern which has been infected through the slope of the ground or by the infiltration of the foregoing contaminated waters.
Certain foods eaten raw and accidentally soiled by water containing the disease germs—such as oysters and shellfish, milk, radishes, salads, etc.
Certain articles of merchandise soiled by blood. (Wool from animals afflicted with charbon.)

III. Transmission by Individuals.
Germs can be transmitted by individuals who have taken care of or visited the patient and by those who have handled or carried soiled articles, if these individuals are not careful to observe the proper measures of precaution and disinfection. They can also sometimes be transmitted by letters.

IV. Transmission by Certain Animals.
In certain diseases, such as the plague, yellow fever, exanthematic typhus and probably leprosy, etc., the disease can be transmitted by certain animals, such as rats and insects—mosquitoes, fleas, lice, bedbugs, spiders, etc. Flies, which easily soil their trunks and their feet in excrements or sputum, play an undoubted part in the transmission of disease germs (typhoid fever, tuberculosis, cholera, etc.).

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HABITATIONS AND TUBERCULOSIS.

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New York.
Visiting Physician to St. Joseph's Hospital for Consumptives, etc.

A habitation is here meant to be any enclosure which is more or less occupied by human beings, and the purpose of this paper is to discuss the likelihood of tuberculous infection in such enclosures.

It seems a platitudinous thing to say that the more unhygienic a habitation the more likely is tuberculosis to be disseminated in it. Yet it must be emphasized that a dark, damp, dirty dwelling in which drainage and plumbing are bad, where filth has been permitted to accumulate, and where the living, and especially the sleeping rooms are unventilated, is an ideal house for the growth and propagation of the tubercle bacillus, the germ which is primarily responsible for consumption. For this germ is saprophytic; it subsists upon putrefaction and flourishes in an atmosphere of decay. Where the sunlight which destroys it cannot enter, where fresh air cannot penetrate, where "dark bedrooms," in which babies and little children sleep through many hours, abound; where airshafts are but a foot wide and six stories deep—it is such conditions as these which have maintained a consumption death roll of one in every third or fourth adult white, and of one in every other adult negro.

Enter for instance a house in the "lung block" which is bounded by Cherry Street, in the lower East Side of Manhattan Borough, and which, by the way, has its counterparts in every large city. Consider how the advanced consumptive, if he be ignorant or careless, coughs up and spits out the tubercle bacillus in infinite numbers (several billions in the twenty-four hours). He spits upon the dirty stairway, and the dust impregnated with his sputum is wafted throughout the halls and into the apartments. He spits about the kitchen or the eating room, and every time he does so he deposits a granary from which tuberculosis infection becomes generated. He spits in the bedroom, and presently the already unwholesome dust takes up and deposits the germ upon the bed clothes, on the furniture, on the walls already blackened with soot deposited through years; on the ceilings where oftentimes the cobwebs make most congenial nests for myriad colonies of tubercle bacilli.

Reflect next upon the unhappy and unfortunate people who inhabit these dwellings. A poor family, in which there is a consumptive, let us say, moves into an apartment in such a house. During several months the sick man has thoroughly distributed the germ throughout the rooms. This family then moves away, because they have not been able to pay the rent, or for some like reason. Another family, all quite in good health, take their place. Within a number of weeks we find a member of this second family stricken by the disease. Thus from one to another individual is the infection spread. There is a diagram of this lung block upon which we find there is almost no house in which a death from consumption has not been indicated; and in one of these houses we see that *nine* among its occupants have succumbed in one year to the great white plague.

Then we must consider the overcrowding

as a factor. Our lower East Side (where live and suffer most of our consumptives) is, so far as we know, the most crowded region in the whole world. Not in benighted Bombay, nor heathen Pekin, nor sinful Constantinople is the population so congested. The rooms thus overcrowded are, to begin with, badly ventilated, unclean and in the summer dreadfully hot; and when we add to these things that the inhabitants are constantly rebreathing not only their own poisonous and germ-laden exhalations, but in addition also those of their numerous companions, the result is nothing short of horrible.

It is not within the scope of this paper to touch upon the part which such predispositions as poverty, and alcoholism, and starvation are playing in furthering germ propagation. But it is pertinent to answer those who wonder how it is that consumption sometimes appears in the most hygienic habitations, how sometimes those living in luxurious homes are afflicted. There are a number of reasons; I give here but one. It lies in Solis-Cohen's most pregnant observation: "The poverty of Lazarus makes itself felt in the house of Dives;" which I have complemented in another place with the following: "The beautiful laces and garments worn by the well-to-do and the pretty things worn by their children and often got at remarkably low prices (for is he not a fool who does not buy a thing as cheaply as he can?) are like as not worked at and bent over and coughed upon from dawn until midnight by sweatshop consumptives."

When we think of the possibilities of habitations as places in which tuberculosis may flourish we must consider the extent to which they are occupied. By an intelligent view in this regard a great deal of phthisiophobia (or unnecessary and foolish dread of the disease) may be obviated. Cornet, of Berlin, declares that the consumptive workman is more likely to infect his fellow-workmen than the members of his own family. No doubt this is true, or at least has been so, for now much more is being done than formerly to make factories and workshops clean and salubrious. After this the greatest danger lies in the dwelling house, which is lived in and slept in throughout the greater part of life; the danger—and a very serious one—lies in homes characterized by such unhygienic conditions as are set forth in this paper. Churches, theatres, public halls, court houses, vehicles, ferry boats and like enclosures must be clean; surely we need no argument to that end. But these structures are only occasionally occupied and generally for a brief time, and therefore they are not so dangerous, with regard to tuberculous infection, as homes and workshops. We must remember, furthermore, that tuberculosis is not so easily contracted—not nearly so easy as diphtheria or measles or scarlet fever or other acuter infections. I would not have any one careless in this matter; nevertheless we shall not become so panicky if we understand that in order to become tuberculous we must be predisposed, and even then the contact must be intimate, frequent and prolonged before the germ will succeed in implanting itself.

What has been done to eliminate consumption producing factors from habited enclosures? Factory legislation has accomplished a very great deal. The Health Department of New York City requires registration of all cases of consumption. Then, whenever a consumptive dies or vacates his apartment, the department at once disinfects it so that the lives of the incoming family may not be endangered. The wholesomeness—nay, the necessity of such a municipal measure must be obvious to the reflecting citizen. How else is the disease to be sensibly fought; how else is it to be kept from spreading not only through family and house, but also through the community as well. And our Tenement House Department (established as it was in conformity with a law than which none wiser nor more beneficent has ever got through the legislative bodies), is eradicating, in a way to make the cleansing of the Augean stables a comparatively light task, such housing conditions as have helped so materially the agency which has destroyed more human lives than absolutely any other in all history.

44 E. 64th Street.

A PLEA FOR THE MORE GENERAL RECOGNITION OF THE EFFECTS OF POST-NASAL ADENOIDS AND THEIR EARLY REMOVAL AS A PROPHYLATIC MEASURE.

By Alfred L. Fuller, M.D.

Although it is now several years since Meyer first called attention to the far-reaching effects of post-nasal adenoids, it is probable that less than one-half of the profession, outside of those who specialize on these lines, fully realize how severe and far-reaching those complications may be. Still less generally is the importance of early removal *as a means of prophylaxis* recognized. These complications are, of course generally recognized as due to adenoids after they have been in existence some time; but since adenoids are a disease of early life, occurring and exercising their disastrous influences just at the period when it is most important for the development of the child that all functions should be performed normally, it is then too late to give the child the full benefit to be gained by their removal. By the time symptoms of their presence have arisen, the child has already some arrest of development due to lack of proper air supply and seeds of delicate health have been sown which may persist through life. The ear and other organs of special sense have become affected and are permanently damaged to a greater or less degree, to say nothing of other conditions which may have caused the child considerable temporary discomfort if not permanent ill health.

It is true that most of these conditions may be arrested at the time of their recognition, but arrest of a process is not restoration to the status *quo ante*. It is the early recognition and treatment of adenoids, before their evil effects have arisen for which this paper is a plea.

A consideration of the numerous affections, which may be due either directly or indirectly to adenoids, will lead the conscientious thinker to realize that there is no disease in which the old adage that "prevention is better than cure" has greater force. Such effects are abnormal conditions of neighboring organs, reflex irritations of distant organs, lack of development and affections of the general system, and increased liability to certain of the infectious diseases with increased danger from such diseases. A short discussion of these sequels of post-nasal obstruction will lead to a more thorough realization of their severity.

The neighboring organs, eye, ear, nose and throat, are all extremely prone to suffer from the sequels of post-nasal adenoids; indeed it is hardly an exaggeration to state that one or more of these organs are affected to a greater or less degree in every case, and in a large percentage all of them are affected. The organ which is most frequently and seriously damaged is the ear, it becoming injured so insidiously that the full extent of the damage is rarely recognized till permanent impairment of function has already occurred. Among the other organs early affected is the nose, which becomes the seat of a chronic hypertrophic inflammation in many cases. This, with the enlargement of the faucal tonsils, increases the mouth breathing, the evil effects of which will be discussed later.

Laryngeal irritation is a frequent accompaniment of adenoids, and is due mainly to the constant buccal breathing; the cold, dry air which comes into contact with its sensitive mucous membrane causing a constant irritative cough and some congestion of the vocal cords. Spasmodic croup is frequently due to adenoids, as is shown by its disappearance on their removal.

While I do not find in the literature at my command any mention of adenoids as an etiological factor in diseases of the eye, my own experience has shown them to be so in more than one case. If they are not actually causative they certainly tend to keep up existing conjunctiva affections of the lymphatic type, such as follicular conjunctivitis, also to lower the resistance to the infection of trachoma.

The ear, however, suffers more frequently and severely than either the eye, nose or throat, it being affected to such an extent as to cause permanent impairment of function in a very large percentage of the cases. Deuch asserts that over half the pathological conditions met with in the tympanum are undoubtedly due to postnasal adenoids. These conditions are most frequently catarrhal and so slow is their development that the condition is seldom recognized until serious loss of function has occurred. This complication may be brought on in various ways: obstruction of the Eustachian tubes by pressure on their orifices and consequent alteration in the intratympanic pressure, which impedes the movements of the ossicles; extension of inflammation along the tubes, an active hyperæmia; and a passive hyperæmia due to obstruction of the venous flow from the tympanum. In a paper read before the British Medical Association some years ago, McKeown reported the results of functional tests of the ears, made immediately before and after the removal of adenoids. In nearly all cases there was great improvement, which could not be explained in the theory of alteration of the intratympanic pressure, and which, he concluded, was due to the relief to the local circulation following the operation. It must be remembered in this connection that the impairment of hearing is not in all cases due solely to the condition of the tympanum, the congestion often extending to the labyrinth as is evidenced by the various subjective noises and reduction of the upper tone limit.

Reflex irritation of distant organs from adenoids is illustrated by the frequency of nocturnal enuresis in such patients, it being stated that this occurs in 40 per cent. of all cases in which adenoids and enlarged tonsils are present. This is frequently relieved entirely by the removal of the adenoids, and in this connection it occurs to me that the high esteem in which belladonna is held as a remedy for nocturnal enuresis may be due to its local action on the throat rather than any specific action on the bladder, as is generally supposed. We know that belladonna dries the throat, constricts its blood vessels; and it may cause some diminution of the adenoids and so exert a sedative influence on the afferent impulse from them to the central nervous system.

Among the conditions of the general system which are due to post-nasal adenoids, one of the most common in my experience is that condition of the nervous system, which manifests itself in aprosexia with nervousness and irritability. Aprosexia, or lack of ability to concentrate the attention, is due to faulty nutrition of the central nervous system and not, as is often held, to impairment of the hearing; for it occasionally exists to a marked degree in those rare cases in which there is no defect in hearing. In the same way the frequent irritability and nervousness are caused; for the child, whose whole system is suffering for lack of proper nutrition, must necessarily show nervous as well as physical symptoms.

This lack of nutrition of the whole system is a necessary accompaniment of the state of the blood which exists in connection with adenoids. In all cases, the child is anæmic, the number of red corpuscles being below normal and the percentage of hæmoglobin being still more reduced. In one of my cases the percentage of hæmoglobin was only 35.

That the liability to infection is increased in children with adenoids can hardly be doubted; still less can it be doubted that, in certain of them, such as scarlatina, dipththeria and tuberculosis the resistance is lessened. In the first place adenoid tissue seems to afford an inviting soil for the development of bacteria; second, the function of the nose of filtering the air in some degree is lost, on account of obstruction and the consequent buccal breathing; third, the impaired air, not being warmed by its passage through the nose, gaining access to the lungs cold, lowers their resistance to pneumococcus infection, and probably to that of tuberculosis also; fourth, the faulty nutrition of the general system not only lowers the resistance to infection but also the resistance of the patient after the disease has gained a foothold. This is perhaps most markedly shown in the frequency with which these patients contract "colds in the head," and the increased severity of such colds. It cannot be disputed that a child, whose blood shows a marked decrease in the oxygen-carrying elements of the blood, possesses much less resistance to disease than one whose blood is normal. In pneumonia especially, when part of the lung is entirely functionless, how important it is that the blood which passes through the healthy lung should possess its fullest power of carrying oxygen to the system. We must realize that blood, which only contains 50 per cent. hæmoglobin and consequently only 50 per cent. oxygen-carrying power, may and often does hold the balance of life and death, and that the scales are often tipped the wrong way by this one defect of nutrition.

Having called attention to these more important of the sequels of post-nasal adenoids, I will now report a few selected cases which will illustrate how an early operation might have prevented serious troubles affecting other organs:

Case I. L. P., female, aged 12, was brought to me for treatment for follicular conjunctivitis. She had suffered from this trouble for some years, the condition generally being worse in the spring, when she also suffered from frequent "colds in the head." The conjunctivitis had been treated several times by other physicians and cured only to return. There was no mouth breathing or other prominent objective signs to call attention to the existence of adenoids. Under appropriate local treatment with tonics the conjunctivitis disappeared only to return in a few months. This happened three or four times, when she came for treatment just as she was recovering from a cold. Her appearance suggested adenoids and examination showed their presence. Examination of her ears showed some thickening of the drum membrane, and functional tests showed marked impairment of hearing in both ears. This had come on so slowly that it had not been noticed by either the patient or her parents. I removed the adenoids a few days later and both tonsils which were rather large, following this by treatment of the nose and the conjunctivitis. The conjunctivitis was cured as formerly, but with the difference, that at the end of two years when I last saw her, there had been no return. The hearing was improved but considerable impairment still remains.

Case II. M. W., aged 10 was brought to me for treatment for being "run down." She had been under tonics off and on for nearly three years, gaining while taking tonics but invariably losing when not taking them. She presented the typical appearance of a patient with a severe obstruction to breathing, open mouth, flattened nose, dull appearance and pale complexion. The post-nasal space was completely filled up and the tonsils were the largest I have ever seen. Examination of the blood showed red corpuscles 3,500,000, hæmoglobin 40 per cent. Removal of the adenoids and tonsils, followed by tonic treatment, resulted in complete restoration to health, an examination of the blood two weeks later giving red corpuscles 4,800,000, hæmoglobin 90 per cent. This improvement lasted three years, when I lost sight of her. Her hearing was, however, permanently impaired.

Case III. A. F., aged 7, was brought to me with the following history extending over a period of 18 months. General ill health, enuresis, lack of ability to concentrate his attention, nervousness and irritability. Plentiful whippings had been the treatment for the enuresis, with no results of course. The irritability had been treated in the same way. The condition of his nervous system was shown by the occurrence of convulsions on the least disturbance of health, such as indigestion, slight fever, etc. He had the apathetic appearance typical of adenoids. His hearing was markedly impaired. Examination of his throat showed enlarged tonsils and adenoids, the post-nasal space being entirely filled up. Operation, followed by treatment of the enlarged turbinates resulted in marked improvement. The enuresis ceased, the child's appearance improved and he became less nervous. He has had no convulsions since, although he has several times suffered from the same ailments that invariably produced them before. He is no longer irritable and unable to concentrate his attention. This improvement has lasted four years.

These cases have been selected as illustrating some of the conditions which might have been prevented by early recognition of adenoids and their removal. In all cases the hearing was permanently impaired, and this alone constitutes a sufficiently powerful plea for their removal as a preventive measure, even if other conditions are left entirely out of consideration. But the other conditions present in these cases, while only temporary, were certainly the cause of considerable discomfort to the little patients, and anxiety to their parents, to say nothing of the increased liability to, and danger from certain of the infectious diseases. Who can doubt that the patient whose blood showed such deterioration, would have been in infinitely greater danger from an attack of pneumonia than one, whose blood had a normal oxygen-carrying power? Then, too, while the improvement following the operation is great, who can say positively that the system even *completely* regains the tone lost by months or years of poor health occurring during the years most important to its proper development?

The sole arguments against the removal of adenoids in early life as a routine procedure, whether they have given rise to any symptoms or not, are: first, that the child may be subjected to an unnecessary operation; second, that they will disappear of themselves in later life without treatment. To the first of these it may be replied, that the danger of such operations is practically *nil,* and the suffering so slight as not to be considered when opposed to the results that may follow their continued presence. Better that a hundred children should be subjected to this slight suffering unnecessarily than that we should suffer permanent damage to health or any organ by allowing them to remain. The second may be answered by the fact that the adenoids do not in all cases disappear after puberty. Even though they disappear in later life, as they do in the greater number of cases, do the evil effects of their complications disappear with them? Does their disappearance restore the impaired hearing? Does it take away the discomfort and suffering of the past years during which they existed? Does it bring back the same robust health which their existence during the years of greatest development has impaired? Nothing can *undo* what has already happened though the evils may be *arrested.*

In conclusion, I will state that I am not a throat specialist, but a general practitioner, so it cannot be urged that this plea is induced by any special bias, or that I am suggesting that all forms of ill health in children should be treated by having their throats "scraped out." I do, however, believe that the numerous abnormal conditions found in connection with adenoids, some of which have been mentioned in this paper, the temporary suffering and often permanent impairment of health, constitute a powerful plea for the routine examination of the throat and early removal of postnasal adenoids, as a prophylactic measure in all cases in which they may be present.

Addition. Since writing the above I have read in the lay papers, a report of a committee of prominent educators, headed by Charles C. Burlingham, president of the Board of Education of New York. This committee investigated conditions among school children of New York, Boston, Chicago and other cities.

They claim that, based on a careful examination of school children in these cities, there must be 12,000,000 in the United States having physical defects, which cause them to lag behind their proper grades in their studies. And of these they claim that more than half suffer from adenoids, enlarged glands and defective breathing.

In New York City they estimate the number of school children suffering from defective breathing at 230,000.

While making due allowance for errors in this estimate, is not this a powerful plea for routine examinations and treatment of adenoids in early life?

Witting, Texas.

DIET AFTER LAPAROTOMY.

By J. A. Schmitt, M.D.

New York.

Allimentation plays an important if not predominant rôle in the treatment after laparotomy. With singular force the golden rule is here applicable, that the patient should be provided with a digestible, nutritious and palatable food, of sufficient quantity and variety to compensate for the wear and tear of the system. Even an over-feeding, as far as the digestive functions of the alimentary canal will permit, may be resorted to, if the patient's constitution is enfeebled. The times when we feared to "feed the fever" have passed. Recovery is more rapidly effected and complications are less likely to occur in proportion as the vital powers are strengthened by a nutritious and easily assimilable food.

Unfortunately the most carefully selected diet will be of no avail, while the patient is still under the influence of the after-effects of general anæthesia. An excessive thirst and persisting vomiting render every kind of nourishment repulsive. The drug—chloroform or ether—circulates in the blood and, apart from irritating the mucous membranes, seems to alter the chemism of digestion. There can be no doubt that the trauma, the loss of blood, the insult to the peritoneum and intestines, the exposure of the abdominal contents to the air, are partly responsible for those disquieting symptoms, which may however be produced from the inhalation of chloroform or ether without subsequent surgical procedure.

We have no reliable remedy to counteract the ill effects of these drugs. High rectal injections of a saline solution immediately after the operation and continued about every 4 hours, are so far the most efficient means at our command.

Abstinence from any kind of drinks in order to secure for the stomach absolute rest has also been recommended. Nothing may be said against such an advice if the patient is endowed with a robust constitution, but as a good proportion of the sufferers do not possess great vital energy and endurance, and as the strong and the weak alike crave for water and ice, it would be a better and more charitable plan to grant an abundant supply of water, even if this should be rejected by the stomach. Various nutritive substances may be added to the water so that the dietetic regimen should comprise the following fluids:

Water, hot or cold; pure or acidulated with acid. muriat. dilut. or lemon juice, if rendered thereby more agreeable to the patient.

Light tea; toast-water; egg-water; barley water. Ice from distilled water is not objectionable, but it should be given in small quantities and alternately with the other liquids.

Coffee, milk, the animal broths, alcoholic beverages should be prohibited while the nausea from the anæsthetic is still existing. They are, as a rule, not retained by the stomach. A trial should, however, be given to carbonated water. It may be argued that it is likely to increase the feeling of fulness and flatulence, to which patients after abdominal operations are inclined. In reality it seems to afford relief from thirst and nausea, though in some instances it is not at all tolerated. In a highly charged water it is advisable to let the gas escape before drinking.

The ill effects of an anæsthetic are of brief duration, but even this short time may be of grave significance to exhausted patients with threatening symptoms of collapse. A fair nutrition and stimulation can be maintained temporarily by the introduction of food into the rectum.

The dietetic rules would be incomplete without reference to the hygiene of the mouth. A coated tongue increases thirst, impairs appetite and spoils the taste of the best flavored dish. Attention has, therefore, to be directed to it from the outset by projecting a spray of water or a weak solution of chlorate of potash or boric acid into the mouth at regular intervals.

When laparotomy has been performed in the house of the patient, the supply of pure water presents a serious problem, in the solution of which every physician ought to be keenly interested.

The water, whether it be introduced by mouth or injected into the rectum or vagina, should be sterile. The sometimes coffee-brown color and foul taste and smell of the New York City water have created a distrust very profitable to the trader in "Spring waters." For the needs and security of those in moderate circumstances a simple device has been of great service to me. Boiled water is poured into a large glass or agate funnel, the tube of which is clogged with absorbent cotton. The bottle on which the funnel is placed is previously cleaned with sand and rinsed with the first water percolating through the cotton. The flat taste of sterilized water may be obviated by the addition of fruit-syrup, lemon and orange-juice, acid. muriat. solut., etc., according to the desires of the patient.

When the after-effects of anæsthesia have passed away other articles of food have to be added or substituted, viz.: milk, gruel, soft boiled eggs, rice, coffee, apple-sauce, meat-juice. Unlike beef-tea and the various animal-broths, beef-juice contains a considerable amount of albumen; it is a very useful preparation, which may be mixed with cold water or added to barley-water or oatmeal, care being taken not to subject it to boiling.

About the fifth day, after the bowels have been evacuated, solid food, preferably toast, scraped and boiled beef, lamb-chops, chicken, may be permitted, provided that the patient is on a fair way to recovery. After the first week, if the patient is free from fever and enjoying a good digestion, vegetables may be placed on the dietetic list.

In supporting the patient's strength the use of alcoholics is of great importance. For feebleness of the heart's action I know of no better stimulant than brandy; it must be administered in water or milk in small doses at regular intervals. Particularly in those cases in which recovery is retarded by suppurative processes they form an essential part of the supporting treatment of asthenia. Light wines and beer, on the other hand, have only a slightly stimulating effect and conduce rather to the comfort of the patient.

It may happen that the patient while enjoying a good appetite and liberal diet becomes afflicted with fever. A return to the fluid or semi-fluid diet is thus made imperative. It does not imply, however, a curtailing or deprivation of nutriment.

At no time, with the exception perhaps of the first 36 hours, after laparotomy should alimentation fall below the normal standard; it should embrace in proper combination and in digestible and assimilable form all the alimentary elements required for nutrition. Even overfeeding may be resorted to in suitable cases.

A great deal has been said of nutritious and digestible, and very little of palatable, food. Cookery and digestibility are, however, closely related. Food that is relished is more likely to be tolerated and assimilated. Although taste varies with individuals, there are well established rules as to the mode of rendering articles of food appetizing. The same nutriment may be transformed into a delicious morsel or a repulsive stuff, according to the care and ability of the cook. Hippocrates prefers a palatable though less wholesome food to that which is better though distasteful. All our patients, without doubt, share his opinion. They are welcome to it—to consult and, if reasonable, to satisfy their desires and taste, is, indeed, a wise policy.

132 E. 73d St.

"If a man can write a better book, preach a better sermon, or make a better mouse-trap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door."—Ralph Waldo Emerson.

BERI BERI AS SEEN IN SIAM AND THE MALAY PENINSULA.

By Charles S. Braddock, Jr., Ph.G., M.D.
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Late Chief Medical Inspector Royal Siamese Government.

This disease is confined altogether to the rice eating peoples of the world, that is, to those eastern and tropical peoples, who use rice as the principal article of diet, and is one that causes annually a large number of deaths. Calling for a strenuous use of preventive medicine, and where preventive medicine can acquire new laurels, it is a moot point at present as to the immediate cause of the disease, whether to a specific bacteria in the rice or to a toxine caused by a fungus or fungoid growth.

In my personal experience, I traced all the cases arising under my observation to rice that had been stored in a wet or damp place, where mold easily formed, or to rice harvested in a very wet season, and to where no facilities were at hand to store it in a high dry place.

There are two forms of the disease, nominally called the wet and the dry, both having the same nervous manifestations, as the disease is a true peripheral neuritis.

Symptoms: Pain in the calf muscles of the legs on pressure. Ataxic gait, loss of knee reflex and in the wet form dropsical effusions and swelling all over the body accompanied with rapid, weak pulse and little or no fever, sometimes subnormal temperature. Death may be from exhaustion or very sudden as in diphtheria from paralysis of the heart and respiratory centers.

I have attended hundreds of cases and the treatment of all was the same. Stop the rice diet, give bread or beans and strong tonics, iron, quinine, and strychnia, nitroglycerine and digitalis, and send parties to some other localities to live. Also direct them to sleep and live as high from the ground as possible. If this is done the prognosis is very favorable. That the disease is caused by the rice diet was proved in the Japanese Navy, where there were a large number of cases. The rice diet was stopped and a ration of beans given instead and the disease vanished.

When I first saw Beri Beri, I used the treatment outlined above, and all my cases recovered. I felt unduly puffed up with pride and thought I knew all about Beri Beri, when suddenly the tide changed, and in a few days I had a number of deaths, some of them dying a very few minutes after I had seen them and had detected no change in their condition. My pride had a great fall, and I found to my sorrow that at first my cases had only been mild ones, and that in the severe cases the mortality was very high.

During an outbreak among the men in the Siamese Navy, fourteen of the men employed on the steam launches died in a few days. An outbreak took place on the naval cadet training ship and I had at one time thirty-five naval cadets down with the disease, a few of whom did not recover their normal health for six months. Fortunately there were no deaths. I traced the cause of the outbreak to bad rice, and this was fully proven by the commander of the ship who told me that in seventeen years' service he had never had a case of Beri Beri among his men, as he always bought the rice himself, buying the best quality in the market, and storing it in a dry place, but that the naval cadets on being transferred to his ship brought their own rice from Bangkok with them. Not one of the regular crew of the ship was taken down with Beri Beri.

A great number of deaths in my experience occurred in women shortly after labor. The disease seemed to develop suddenly after the child was born, and in a few days the mother would die. In Siam we feared Beri Beri far more than sepsis after labor, and strange to say, with all the dirt and conditions present that modern science teaches us are conducive to puerperal fever, the women seemed to be more or less immune from infection, and did not acquire sepsis under conditions that would produce it apparently anywhere.

In my opinon the long contact with dirt

gave more or less immunity to these people. Nursing mothers also conveyed the disease to their children. It is a custom in Siam among the higher classes to have wet nurses. We traced the cases, almost all fatal ones, among the babies to their nurses suffering from Beri Beri, and found that in many cases they had lost their own babies from this cause. After their own babies died, the ones they took to nurse also contracted the disease and died. I traced the death of two babies from typical Beri Beri to one wet nurse. As these children were too young to eat rice there could be no other way of transmitting the disease.

I only saw one European who had contracted the disease, and he was a surveyor who had been six months in the jungle subsisting almost entirely during that time on rice. He suddenly developed the disease, and although a large man, in a few days swelled to huge proportions. I measured his wrist and it was fourteen inches in circumference. With a bread diet and strong heart tonics he was soon well.

One thing to be marked in this respect, is that the disease was formerly unknown in Siam and was brought into the country at the time of the visit of the King to Java some years ago, when some of the Siamese sailors on the royal yacht contracted the disease there and brought it to Siam, probably in the food, and it has been a scourge in Siam ever since.

I never had a case among the higher or better class of people, who took good care of their food and ate good rice. All of the cases were altogether among the poorer classes and among the people living in low, damp houses, and whose rice was stored in damp places.

We always instructed the patients to live as high from the ground as possible, change their location, stop eating rice and take heart stimulants.

Beri Beri of the severe form is to be dreaded as much as diphtheria, as death takes place as suddenly from paralysis of the heart.

In conclusion I do not think that it is necessary to suggest quarantine for Beri Beri, as it is perfectly controllable in an outbreak by stopping the rice diet, good sanitation and cleanliness, and in my opinion is not transmitted from one individual to another, except through the milk of the nursing mother.

It will always flourish where men are crowded together and where sanitation is neglected, as in the forecastles of ships, jails, barracks, and on large construction works where the men eat from a common infected supply of rice.

THE RATIONAL TREATMENT OF ACNE.

By F. C. Curtis,

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The conditions on which a disease depends for its existence form the rational basis upon which to construct measures for its cure. This is very true of acne. Satisfaction in its treatment can only attend a recognition of this general statement.

What is the rationale of this common disease which every family physician is consulted about? Why does this inflammatory affection of the sebaceous glands, coming on chiefly at adolescence but lasting indefinitely into later life, involving the face and shoulders where the glands are largest, occur?

Fundamentally, from imperfect functional activity of the organs of digestion, and attendant lowered vitality. No permanent cure will be effected if this element of the disease is disregarded. I venture to say that every one who has much to do with it gives first attention to the conditions involved in my statement, and expects results to be measured by his success in rectifying them. Disturbance of the gastro-intestinal tract and malnutrition sequent to it is the tap-root of the disease and most else is subsidiary. Hereditary tendency to acne is more likely primarily to be one to dyspepsia; adolescence and disorder of the sexual organs have etiological value only to a minor degree and mainly from their effect in lowering vitality and the usually attendant disorder of the digestive system.

There is direct connection between the action of the stomach in the process of digestion and the circulation of the face; everyone experiences a fullness of the blood-vessels of the face during the digestion of a hearty meal.

At the same time, relaxed physical tone (and every subject of what is broadly termed dyspepsia knows of its physical and moral depression) relaxes the tone of the cutaneous muscles; and connected as they are anatomically with the follicles of the skin, into which sebaceous glands empty, these follicles thus become patulous, flaccid and open. The local conditions of the affection under consideration are thus established. The efferent follicles being relaxed, the oily secretion of the sebaceous glands fails of being carried constantly to the surface, and collecting in the patulous duct loses its fluidity, and comedo results. How far this acts as a mechanical irritant may be questioned, but there is *little* doubt that entrance to the patulous follicle is given to infective micro-organisms, which directly set up inflammation. It seems of minor importance to find the particular germ or to name it, though much careful investigation has been given; the clinical inferences lie legitimately in this direction, and this is sufficiently certain to determine in a measure our local treatment. But the primary fact remains that back of probability of their important rôle is the patulous duct through which alone they find entrance, which they can hardly do in normal conditions, and their dependence in turn upon the remoter and more general conditions mentioned.

With this basis for estimating the essential factors of the disease, the principles of treatment follow. The indications are to rectify digestive activity, and to invigorate the subject; the local indications, to stimulate the cutaneous muscles and to remove and destroy irritant micro-organisms. This latter will be modified by the activity of the inflammation but will be applicable to the acne as commonly seen.

How shall we rectify the digestive action? In a large sense this is a very extended process, reaching from the food put into the mouth, its course through the digestive organs, thence in the blood current to the tissues and back as waste matter to be cast off. Every practitioner has his own way of managing this, and although I have distinct convictions on the subject I will not consume the time of this meeting to go into my own details. Indeed there is material for an entire paper on this theme alone.

Chiefly are: prolonged and complete mastication of food, leaving its choice to the appetite of the subject; suitable aids to stimulate the digestive activity; regular action of the bowels by the varied means appropriate to each case; and, of like importance, to reach the distal end of digestion by *short but strenuous exercise* through its appeal to the entire muscular system.

How shall the invigoration of the subject be effected? This also is a large subject, since we have to adapt ourselves to the varied environments of people, but for the most part by hygienic measures. A short vacation will do more than medicine for an overworked school teacher. I constantly prescribe a vigorous walk in the open air, preferably some three hours after the midday meal, preceded in the under-nourished by such concentrated food as a glass of milk taken slowly by itself or a tablespoonful of codliver oil or mixed fats with hot water. This change of activity rests even a tired housewife. Fresh air especially at night has to be always prescribed. A morning scrub of the surface of the body with a bath brush, soap and a little hot water, preceded by short calisthenic exercise, will draw the blood from the inner organs, and toning the cutaneous muscles of the body will likewise tone those of the face and certainly increase the beneficial effect of local treatment. Sluggish circulation goes *pari passu* with sluggish gastro-intestinal action.

Whatever is called for in the way of medicinal tonics and nutrient medication will further invigorate.

I add but a word regarding local treatment. The chief thing is cleansing, antisepsis and stimulation—at least with the grade of inflammation usually existing. Thus, with hands and finger nails made surgically clean, the face may be lathered abundantly with clean, warm water and soap and then deeply massaged and curetted with the nails. This will remove squamous epithelium, open and clear the follicles and tear open the papules and pustules. It is best done at bed time. A paste containing lac sulphur and salicylic acid or like antiseptic stimulant can then be well rubbed in. Such a procedure satisfies the local indications. It can have only temporary effect by itself and alone.

I have purposely spoken only in a general way of the nature and demands of this common affection. The details of treatment can always be developed when the indication is established. These will depart infrequently from the indications barely outlined, their importance will be considerable when rightly directed, for few diseases respond more directly to treatment or are more dependent on it. Specific medication has comparatively little place although sometimes of value; there are cases of acne which are out of the ordinary which are best reached by special methods. For most cases the chief thing appears to me to be primarily to intelligently meet the indications outlined and the object of what I have to say is only to say this.

17 Washington Ave.

DISCRETION.

THE fool rushed to certain conclusions.

The middling man approached them warily, and with circumspection.

And the wise man, perceiving them from afar, decided to go round another way.

POSSIBILITY.

"You know that it is quite preposterous of you to chase rainbows," said the sane person to the poet.

"Yet it would be rather beautiful if I did one day manage to catch one," mused the poet.—*P. T. O.*

THE LACK OF NOURISHMENT IN OUR DAILY BREAD.

By CHARLES CRISTADORO.

IN the berry of the wheat is found every constituent to perfectly nourish the human frame, and if the gluten and starch, the flesh formers and heat producers, can be balanced as one to five we have in wheat an ideal food.

Many cereals and roots, and even the bark of trees have been employed in making bread, but nothing has ever approached wheat flour in the making of the perfect loaf.

There are, however, wheats and wheats, the soft wheats of low gluten value and rich in starch, and again those stronger in muscle-making values, gluten, and yet again the durum wheats of Russia, hard and excessively rich in gluten and vegetable sugar, sucrose.

Nearly ten years ago one M. A. Carleton, Curalist for the Bureau of Agriculture at Washington, D. C., was sent on a perspective tour amongst the wheat farmers of Russia. Our tillers of the soil knew about wheat but had never seen durum wheat until Mr. Carleton brought home with him many bushels of seed, which were distributed amongst our farmers gratis. They planted it alongside their other wheat and duly reported that durum wheat successfully resisted drouth, rust, sweat and bugs, and yielded 25 per cent. to 100 per cent. more per acre than other wheat, Texas even growing 50 bushels to the acre. It was a sure and an abundant crop. The farmers were jubilant only to become crestfallen and disappointed when they must carry their wheat back home because the elevator men refused to buy it. The millers would not have it for it was so rich in hard, yellow "lean of the meat" gluten that their rollers would not grind it. The farmers fed this wheat to their hogs, and no better pork was ever grown. But the farmers certainly were disappointed.

Uncle Sam encouraged them to try again and from 100 thousand bushels harvested in 1901 60 million bushels were harvested in 1907; yet you can travel New York and not find a single loaf of durum bread for sale, although of twice the muscle-making value of ordinary blended flour bakers' bread.

Wheat that showed 15 per cent. of gluten when ground in Russia showed 18, 20, 22 per cent. when transplanted to our Northwestern prairies. We took wheat from Russia and bettered it because of our fruitful soil.

The gluten of wheat will produce, ounce for ounce, as much muscle in the human body as the lean of meat. The value of your bread is dependent not upon its size, lightness, volume, grain and general appearance, but upon the gluten it contains. A bread that contains about 8 per cent of gluten, as in blended flour baker's bread, is worth just half as much as a muscle-builder as durum bread containing 16 per cent. of gluten, "lean of the meat" in wheat.

So with our soil producing durum wheat, 60 million bushels, not a loaf can be bought of durum bread in all New York.

By sending a postal card to the Bureau of Agriculture, Washington, D. C, asking for Bulletin No. 70, sent free on application, you will receive exhaustive information, with splendid illustrations telling not only about durum wheat, but about durum bread. You will read there that tests made have proved conclusively that durum flour makes the best bread in the world. It is the bread of France, this durum bread, made now from American grown durum flour, that the bakers make so perfectly as to supply 75 loaves out of every hundred baked in the whole of France. Because of the use of this durum flour by the bakers no skilled French woman cook can do as well or better. Yet in America the women bake 84 loaves in the kitchens and the bakers bake but 16 loaves out of every hundred. So you may ask yourself what is it makes home-made bread so preferred or "what is the matter with baker's bread?"

In one case the woman of the house uses a high grade, straight family flour and gets a loaf with from 10 to 12 per cent. of muscle-formers in it, whilst that bought at the baker's yields but 8, as a rule. The woman of the house claims that there is a something to her bread the bakers' bread does not possess.

In Scotland 95 out of every hundred loaves are baked in the bakery and but 5 made at home, and our American bakers can only show a record of 16 loaves—and this record is helped out because the kitchen fires in summer are uncomfortable and the housewife buys baker's bread.

Durum wheat means millions to our farmers and millers, it affects the prosperity of our bakers, it emancipates the women of the house from kneading bread, and it means raising the muscle-making contents of the bread of the nation 100 per cent., and that is no small end attained.

From the same acre of ground the farmer can surely count on 25 per cent. more yield, on the most conservative basis. We raised this year 600,000,000 bushels of all kinds of wheat, 10 per cent. of which was durum wheat. Were this all a durum crop it would have meant an increase of at least 25 per cent. (150,000,000 bushels), tilled within the same ground—certainly no mean proposition.

Kubanka wheat that contained 15 per cent. of gluten when grown in Russia leads in price all other wheats on the Russian Exchange. That same wheat grown in America yields 18 to 22 per cent. gluten, so here we have an American grown Russian wheat surpassing the best in Europe. This one fact opens up to our millers the markets of Europe, our foreign consuls telling us that they stand ready abroad to take all the durum wheat America can send over.

So, instead of the 60 million bushels of durum wheat going into American loaves, a small portion of it goes into macaroni of domestic manufacture and the balance goes to France to make rich, nourishing, muscle-making bread, so satisfying that a French workman will eat a foot or more of crusty bread and wash it down with a pint of vin ordinaire, and then go out and do an afternoon's work as if he had eaten heartily of boiled beef.

The miller, therefore, would be insured a steady market for durum flour, and as for the baker, he would by the use of durum flour alone in his bread give the housewife a perfectly satisfactory loaf of bread, better than she could herself make, for no woman can knead bread dough as well as a properly constructed mixing and kneading machine. A woman should be able to buy her bread and not be obliged to make it at home.

And as to the general public. What the cumulative effect would be to provide the people with a bread a hundred per cent. more valuable than it is getting to-day in a muscle-value sense, no man can foretell. That the soil should give us such a valuable cereal and the public not enjoy it is an anomalous situation.

It is ignorance on the part of the public that has prevented it from asking for durum bread. It has been made to perfection (see Bulletin No. 70, previously referred to), and it is patent that from it the best and most nourishing loaf can be made, a loaf *perfectly white,* crusty and so sweet (durum flour is rich in natural sucrose) that once eaten one never wants to return to the old bread.

The situation is one analogous to getting in your roast from the butcher, at the same price, twice the amount of red, muscle-making lean, at the expense of bone, fat, etc., just double the value for your money, for, like the lean meat, the gluten is the valuable part of your loaf.

As a matter of comparative food values, on a muscle-making and monetary basis, note as follows.

Muscle-makers in 100 pounds		Cost per pound
Rice—white, polished......	0	10 cents
Rice—yellow, natural......	7	9 cents
Potatoes..................	2	?
Milk, Cow's...............	4½	4 cents
Baker's Bread, from blended flours..........	8	5 cents
Meat, Roast beef, (lean, *absolutely,* no fat, no bone.)	18	50 to 75 cents (After all fat, bone, etc , are cut away.)
Macaroni, from standard durum flour..............		7 to 8 cents, in bulks
Durum bread, from standard flour................		5 cents

Rice, the degluten, red article that the miller so obligingly scours for you, clearing off the rich gluten, comes frequently upon your table as do potatoes, and the muscle value of one is nil and of the other but little above zero.

Meat values were arrived at on a basis of absolutely lean meat, so remove from your roast all but the actual red lean, the valuable part, and you will find it very expensive as a muscle-forming food.

Macaroni, the much misunderstood food, is nothing more or less than an unleavened, unbaked bread, air-dried. It is to-day the richest in muscle-makers and, because of its solid, dry condition, is the cheapest and at the same time the most nourishing food that can be put upon our tables. It can be cooked in a hundred different ways, and one should not tire of it more easily than of bread.

As to durum bread it must be THE BREAD OF THE FUTURE. The Government has toiled nearly ten years to acquaint the public with the value of durum bread, has at last gotten the crop up to 60 million bushels per annum, and maybe next year to 100 million bushels, and the time has now come for the public to demand the full value in bread for its money.

It is simply up to the public to ask for durum bread until it gets it. The baker will make it and learn, in time, that with the proper machinery he can make a better and whiter loaf of durum bread than he can make to-day with his blended flours.

Once the public gets a taste of well-made durum bread, so moist of crumb and crisp of crust, so nutty and sweet and so solid and satisfying, it never will go back to the old bread again. And the woman of the house can for ever and a day give over the making of bread, a drudgery altogether unnecessary when the baker can do the same work many times better by machinery.

So, if you really want durum bread, ask for it and it will come in time.

Point Loma, Cal.

HAVE all the fun you honestly and decently can; it is your right.—ROOSEVELT.

GALVANISM IN NEURALGIA.

By William F. Waugh, M.D.

Chicago, Ill.

The field embraced by Anstie when he wrote his monograph on Neuralgia has been greatly circumscribed; so much so, that when we ascribe the cases of neuritis and those of autotoxemia to their own place it may be questioned if there are many left for classification under the ancient designation. But there are some, and we still meet cases where there are periodic paroxsyms of pain, limited to the distribution of one or more nerves, tending to recur in the same, with patches of anesthetic skin, tenderness at the points where the nerve escapes through a bony or fibrous foramen, the paroxysms induced by depressing influences, and with various trophic disturbances following in the affected area in due time, etc.

Among the numerous useful therapeutic resources enumerated by Anstie, he placed at the head of remedies to break up the paroxysmal attack the use of galvanism. He carefully limited its efficacy to the paroxysm, and urged the use of a very mild current, as that from five of the ordinary wet cells; this to be applied—the positive pole to the affected area, the negative indifferently—until the pain ceased. In a short time the pain recurs, but another similar application relieves it; and by persisting this way the attack is broken up in a very much shorter time than when left to nature.

Many years ago the writer employed this method with his first case of the morphine habit, which had been induced by an inveterately recurrent supraorbital neuralgia. The attacks generally lasted about one week, and recurred monthly—the patient was a man in his thirties, an office worker. The first time we tried the galvanism it required about thirty applications, during as many hours, to quell the attack; but we did it, and without morphine. The next paroxysm required only about twenty applications to secure relief, and each subsequent time the malady gave way under fewer applications, until one or two were sufficient. The final result was a cure of the morphine habit, and a more effective means of quelling the neuralgic paroxysm than the narcotic. Meanwhile there seemed to be an improvement in the local nutrition of the affected tissues, and the paroxysms became less frequent.

This was a quarter century ago, long before the time when we had learned to recognize the influence of fecal autotoxemia in arousing these attacks of pain along a weakened nerve, one of lower than average vital resistance. But in numerous subsequent cases the power of this mild galvanic current was demonstrated; in fact this was one of the things that influenced the late W. F. Hutchinson to devise his famous "singing rheotome."

The matter had lain long dormant in my memory cells until quite recently a case came to me, in which the same need was presented. This was an army officer, who had also contracted the morphine habit by reason of intense agonizing supraorbital neuralgia. For this complaint he had been on the sick list thirty times within one year, and it bid fair to drive him out of the army. Orders for service in the Philippines brought to a focus the question of his ability to give reasonable service. The morphine was stopped, and the first paroxysm of neuralgia completely relieved by a hypodermic injection of hyoscine, morphine and cactin, without arousing any desire for the habit drug. But the next paroxysm we had a galvanic battery in readiness, and several applications showed the usual power of controlling the malady.

We had therefore, at the *sine qua non*, a remedy that perfectly controlled the paroxysm, but useful only at the time of the paroxysm; one that could be readily transported, in the pocket if necessary, and be always ready for use without the risk of breakage or leakage of a fluid. This points to a dry cell battery, of about eight cells, with a few more for recharges to be carried in the officer's baggage. The method is more effective and far less dangerous than the use of headache tablets of any sort, and in these days when "drugless therapeutics" as a fad has passed the limits of the reasonable and reached those of the ridiculous, this method ought to be received with enthusiasm. But there does not seem to be enough demand for such a battery to induce the manufacturers to make and bring it to the notice of the medical profession. Possibly an operation to remove the cerebral center of the affected nerve and replace it with a sound one from another person might be received with more of a welcome.

Ravenswood Station.

A WORD ON NERVOUS DISEASE DUE TO INJURY.

By J. B. Cutter,

Surgeon to A. T. and S. F. Ry., Albuquerque, N. M.

Of the great number of traumatic cases coming under the observation and care of the railway surgeon none present a more interesting aspect to the surgeon than those cases of disease of the nervous system resulting from accident or injury. The prognosis in these cases is puzzling, the treatment oftentimes unavailing, but in many of the most unpromising instances the brilliant recoveries are a tremendous source of gratification and an ample reward for the weeks of anxiety and uncertainty.

In this connection I am reminded of a most unusual case of combined paralysis of the upper extremity, a state often referred to as Erb's palsy.

Though many of these cases are on record, usually as the result of blows or falls on the neck or shoulder or arm, or dislocations or fractures of any of the bones of the upper extremity, resulting in paralysis of the deltoid, brachialis-anticus, supinator-longus and biceps, I have seen no reference to complete paralysis of the upper extremity from the following cause, namely, over-tension of the brachial-plexus, due to swinging a heavy object.

In this relation the case to which I will refer may be of interest:

A. C., a Mexican boy of 18, working as a blacksmith's helper in the shops of the A. T. and S. F. Ry. at Albuquerque, came to the Santa Fé Hospital on April 15. He said he had been swinging a twenty-pound sledge, that it suddenly dropped from is grasp and that he was unable to again lift it or swing it.

Upon examination complete motor and sensory paralysis was found of the entire upper extremity. The sole cause seems to have been the over-stretching of the brachial-plexus from swinging the twenty-pound sledge.

A guarded prognosis was given. He was directed to come to the hospital daily. He was put upon arsenian acid, strychnin and iron, and the battery was applied for fifteen minutes daily. For three weeks no improvement was noted, but the treatment was continued, and by the fourth week a decided return of sensation was appreciable and beginning motor function. The improvement progressed steadily, and by June 1 the boy was apparently wholly recovered and able to report for duty.

Bailey in his admirable work on this subject gives a not over-favorable prognosis in these cases, so that I feel justly elated at the outcome of this one.

THE

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JOHN W. WAINWRIGHT, M.D., Editor

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EMPLOYMENT, ITS EFFECT UPON HEALTH AND DISEASE.

THE relation of occupation to mortality ratio has occupied the attention of medical men and scientists for many centuries. No more important subject can be studied, nor is there one which offers so large a field for investigation at the present time. Many facts and somewhat of statistics have been published from time to time, but we think that they have not claimed the attention of medical men that the subject warrants. Unquestionably much good would come from a more thorough acquaintance with this part played by prophylaxis.

That there is a healthful and more active body and mind, less of decay or rust, greater happiness, more cheerful outlook upon life, less of the nervous, a better and more pronounced action of all of the organs of the body in those who are healthfully employed cannot be disputed. Life is prolonged, personal relations are one with another more wholesome and welcome. Unfortunately all methods of employment are not conducive to health or peace of mind, but much can be done to regulate this. Environment and habits are potent factors in enjoyable employment, occupation also influences largely the benefit of employment. All men and women should be in a measure compelled to work if only for the benefit it assures. It improves the moral tone of humanity as well as insures against faulty and injurious, not to say vicious habits. There would be less pauperism, fewer penal and eleemosynary institutions, the burdens of which are becoming more and more apparent. There would be fewer hospitals, infirmaries and dispensaries and fewer demands for charity, following which the moral tone and self-reliant nature of man would be vastly improved.

Let us all be employed at something wholesome, healthful and helpful. Occupation will prove a blessing far beyond our anticipations.

SPECIALIZATION THE MEANS OF PREVENTION.

THIS seems to be an age of specialization, men who can do something a little bit better than the average man are in demand, even though it be to drive a horse car, or send home a railroad spike. And this seems to run through all classes and occupations, from the bank or railroad president, the man for political office, be it national, state or municipal; the learned professions, to the merchant, salesman, clerk, porter or laborer. Given the means to employ, it is the man believed to have the most skill, better learning, wider experience, in fact the best man who is sought for. In the various branches of medicine it is the specialist who has the larger following and the greatest income, especially in cities. Just so it is the expert engineer who is called upon to run the engine which pulls the Empire State Express or the Twentieth Century Limited.

What constitutes the expert in medicine? It is not as in formers years he who swears the deepest, talks the loudest, purges and bleeds the oftenest. The people are taking notice, and new schools follow in rapid succession. To-day it is the man who has the better poise, the keenest insight into pathology, the best diagnostician; he who keeps you from becoming ill, not he that pretends to cure disease. Like the immense corporation which employs the ablest lawyers to keep its officers out of prison, the mercantile house the credit man to keep the firm solvent, the building and bridge contractor the ablest engineer to avoid catastrophe, the state and municipality sanitariums to prevent epidemics, should the individual employ and pay the medical man to keep him and his in good health rather than the man at the last hour, or when preventable disease shall have claimed him as its own. Prevention is surely better than cure, for it is the exception that one dangerously ill entirely recovers his health, strength and resistance. It is to preventive medicine, or physiologic therapeutics that we must look for the avoidance of epidemics, endemics or individual complaints and the cure of disease when once contracted in order that we have better, stronger, happier and wiser men. Preventive medicine, which includes prophylaxis, hygiene and state as well as individual sanitation, must be depended upon to free us from the dangers of disease.

THE BENEFITS OF COLD TO THE INVALID AS WELL AS THE HEALTHY.

COLD, and especially cold air, it is claimed has a value far beyond the knowledge of the average physician. In mountainous regions or at a considerable elevation from sea level it is said to be curative of tuberculosis, the benefit derived from a sojourn in elevated regions by the tuberculous being due largely to the cold and pure atmosphere that prevails in such regions. It is conceded that a winter in the Adirondacks is of greater value to those suffering from tubercular diseases than is the summer. Patients are kept out of doors all the year round even with a temperature of 30° F. below zero, the cold in itself acting as a powerful curative agent. This with a clearer air reduces the temperature of the patient and conduces to a more thorough oxygenation of the blood with increased circulation, improved appetite and general betterment.

Forced feeding in these cases is not insisted upon in the earliest stages of the disease, a generous meat diet with milk, eggs, and cereals being all that is required aside from fresh air in superabundance both day and night. Later when emaciation ensues and the invalid becomes anemic, forced feeding becomes necessary in connection always with fresh air and sufficient clothing to insure comfort. Outdoor life night and day, it would seem from reports, is the *sine qua non.*

In pneumonia cold is by many regarded essential, particularly in infancy. The warm, stuffy room with hot poultices, steam, heavy coverings, the procedure heretofore prevailing in the treatment of this disease is to be condemned; rather place the patient out of doors regardless of the temperature and let them have the benefit of the fever-reducing cold, the aeration of the lungs and oxygenation of the blood. Sleep is favored, appetite improved, restlessness and nervous symptoms subdued, heart becomes stronger, cyanosis lessened, respiration less labored and general improvement follows. It will take courage to convince the mother that she is benefiting her child rather than sacrificing it by this treatment, but results are what tell, and these are more favorable than most physicians can be made to realize. Once experienced, the patient will complain if windows are closed and the air becomes warm and stuffy.

Cold for typhoid fever too, as well as other infectious diseases when there is rise of temperature, is indicated. Properly covered the patient will not suffer, on the contrary, will feel more comfortable. Baths will not be so necessary if in winter, but must be resorted to in summer. The toxic effect is noticeable in a couple of days, stupor being absent, an intelligent reasoning countenance being in evidence and a general feeling of comfort apparent.

We believe that cold, pure air is not only desirable but necessary for those not suffering from disease. There is less enervation, a better circulation, improved appetite and a greater amount of red blood in those who avoid warm, stuffy rooms, burdensome underclothing and wraps. Excepting for the aged and weak, those inclined to invalidism, the very young, cold air is extremely beneficial.

The cold air treatment of febrile diseases has surely come to stay, while hygiene and prophylaxis demands an abundance of cold fresh air for those who consider themselves healthy.

DENTAL DISEASE IN CHILDREN DUE TO FAULTY FEEDING.

At the recent meeting of the British Medical Association, dental disease in children was one of the subjects discussed. Mr. Edward Owen, a very distinguished British surgeon, gave as his opinion that faulty feeding was one of the chief causes of dental disease in children. Children who had been improperly fed were rickety. The milk teeth being for the most part formed before the child had acquired the rickety taint might come through full of promise, but the teeth of the permanent set stood only a poor chance of reaching histological perfection. Mr. Owen insisted that all advertised sterilized foods were bad for children's teeth, and if a child must be brought up on cow's milk, the milk should not be dealt with in any way likely to destroy that living something which was essential for the well-being of the child.

According to the speaker the best flour for bread (of course a part of a child's diet as age increased) was that made of wheat coarsely ground between the old-fashioned mill-stones. Such bread produced a proper and healthy physiological stimulus to the jaws, when baked so that it was crisp. Children, however, nowadays were brought up on paps, and patent foods, and messes evolved in the laboratories and for the benefit of the advertising vendor. Mr. Owen concluded an instructive address by stating that prevention of dental disease in children was a better study than its treatment, and in his opinion the so-called "high" civilization of the day was accountable for most of their dental troubles.

In connection with Mr. Owen's remarks upon sterilized milk and foods it is somewhat curious to notice, with how great unanimity the principal British physicians have taken a stand against sterilization of food for children. In principle it would seem that they are right, for undoubtedly really effective sterilization, that is, the method carried to such a point that all noxious germs are destroyed, does also destroy much of the nutritive properties of the food; on the other hand, it will not do to be too dogmatic, for sterilization judiciously carried out at the right time does render milk, at least, less harmful as a food for children in many respects than it would be if the method were omitted. More knowledge is required concerning sterilization before a hard and fast rule can be laid down.

DREAMS.

The brain is the repository of all past experiences, a vast storehouse, as it were, filled with pictures of past scenes and things, replete with stored up voices, sounds and words, innumerable memories of odors, tastes and sensations, pleasant and painful; remembrances of incidents and conduct of one's life and that of others; crowded with thoughts and emotions based upon sensory sensations all traced and recorded among the billion tiny cells that comprise the gray matter of the brain. Tiny threads join these cells, bringing into countless associations under the control of the Ego with its memories, consciousness, judgment and will. Consciousness, like a searchlight, throws from its solitary tower its brilliant rays here and there over the wide expanse which stretches from infancy to old age, illuminating now this, now that promontory when awake. Sleep comes in every twenty-four hours to dim the light, but not to extinguish it. Thus is turned low the light of consciousness sending its feebler rays now here, now there. The full consciousness of the day is compared to the sunlight; night or sleep to the moonlight which is the domain of dreams. The stuff of dreams is of the same fiber as of that of our waking state. Into it enters no material save that of our individual experience. The searchlight of consciousness is regulated and its movements directed by the will. In our dreams the will has gone to sleep, but the searchlight moves as before, throwing a feeble light into this great storehouse, but it is not now regulated by the will. Forgotten vistas appear side by side with those of yesterday, blending together often fantastic pictures, old memories and experiences and reviving—sometimes trivial or inconsequent as well as important events.

The above is from a paper, "The New Divination of Dreams," by Dr. Frederick Peterson, in *Harper's Magazine* for August, 1907. We will continue to abstract from this very interesting article which should be read by everyone, physician and layman. The exciting causes of dreams are sensory stimuli which reach the sleeping mind through the five senses from outside the body: from the organs within the body, internal irritations in the sensory organs, such as the eye, ear, and through psychic excitants; disorders of the lungs, heart, stomach or other organs; a feeling of malaise, of thirst, hunger. In sickness the hyper-sensitiveness of the subconscious may be much emphasized. Dreams have a close relation to delirium and insanity, insanity sometimes first manifesting itself in dreams. It has been declared that insanity may be looked upon as the summation of periodically recurring normal dreams.

If sanity be the sunlit day of consciousness, insanity is the night of consciousness, full of mysterious, fantastic moonlight distortions of reality.

Again we express the opinion that Dr. Peterson's paper should be read by all persons. It is illuminative to a subject which has confused us all at some time or other in life. A brief abstract cannot give all that is admirable in the article.

A NOVEL AND USEFUL DEVICE.

A DEVICE has been invented which will bring to life those dead from drowning, suffocation, anesthetics, etc. It is, as constructed, a two-cylinder pump, each having an inlet and an outlet, the plungers within working simultaneously. Tubes lead from each of the cylinders to be connected one with the nostrils the other with the mouth of the patient. The inlet of one cylinder is connected with a supply of oxygen, the outlet of the other discharges directly into the air. The plungers are driven by hand and timed to correspond to normal respiratory movements, this action by one movement driving the gases from the lungs into one cylinder, while the other movement forces oxygen from the other cylinder into the lungs.

It is said that rats and rabbits have been brought to life after they had been declared dead by a committee of physicians and scientists, the rabbit having died from an injection of two grains of morphin followed by inhalation of four ounces of ether. The apparatus was then applied as above described and the animal breathing normally within three minutes, and in six minutes running about the room. There was no nausea, showing that the ether had been entirely removed from the system.

A dog was asphyxiated by inhalation of acetylene gas. The dog was revived in a short time in the same manner and showed no ill effects from either the gas or the resuscitation.

It is believed that this instrument can be used to revive those asphyxiated by inhaling illuminating gas, ether or chloroform, from strangulation, from the excessive use of intoxicants (alcohol) and from drowning. If the claims for this apparatus prove from further experiments to be true, it will prove of great benefit to medical science.

INFLAMMATION A CURATIVE REACTION.

INFLAMMATION, following a harmful influence upon the tissues, represents a protective and healing process, which has evolved in every animal by adaptation and heredity according to the position it occupies through its development. The inflammatory process deals principally with the elements of the middle blastodermic layer, the leucocytes, the connective, vascular, and nerve tissues. The process depends essentially upon the increased secretory and trophic (regenerative) cell activity, which are stimulated by the inflammatory irritation. The products of secretion, mostly enzymatic substances, effect in part the neutralization of poisons or the destruction of fungi, in part the cleansing of the tissues of cell remnants. The regenerative process aims at the formation of new or substitution of degenerated tissues, as well as the encapsulation of noneliminable fungi or necrotic areas. As practitioners, we are eventually prompted by these consequences, not to combat the inflammation, but treat its cause. This curative process should not be disturbed, but favored, even stimulated.

THE MYSTERIOUS ELEMENT, RADIUM.

WE learn from the *Times* that "radium has been discovered in the rocks while excavating the Simplon Tunnel in sufficient quantity to appreciably raise the temperature in the tunnel." This, if demonstrated a fact, will prove of great interest to the scientist, more especially to the geologist, for if it can be shown that this element really exists in the rocks or other portions of the earth's crust, calculations regarding the age and cooling of the planet will have to be revised. The well known properties of radium, if it thus exists and has for the many centuries since the world was in a gaseous form, would retard the cooling by a continued radiation of heat and thus prolong the time it took to reach the present temperature. This would also effect the contraction necessary to push up such huge chains of mountains as appear on the world's surface.

THE ART OF GROWING OLD.

THERE is no sight more beautiful or inspiring than that of the young old man. Young in thought, spirit and actions. What a delight, how invigorating and educational to the younger generations to converse with a refined, well read, polished and amiable gentleman who has weathered the stress and storm of fifty or more years and has refused to grow old. What profit in such a visit and how such a man is courted by those who are wise and how fortunate he who numbers among his friends and acquaintances such a man or woman whom he can persuade to discuss experiences, persons, incidents and events before his times.

FEDERAL DEPARTMENT OF HEALTH

EFFORTS will be made the coming winter to induce Congress to authorize a Federal Department of Health, the head of which is to be a Cabinet officer. A committee of one hundred men, Prof. Irwin Fisher of Yale, President, have the matter in hand. It is hoped that all persons interested in the movement—as all certainly are —assist in whatever way they can to help along the good work being done by the committee. Medical Societies by resolution endorsing the movement and delivering copy to their local Congressmen can help to bring about what they have for years advocated.

THE RIGHTS OF CHILDREN.

It is extremely distressing to see a child suffering from physical pain, but this is as nothing compared to witnessing one of the dear ones weeping from an outraged sense of injustice done it whether by parent or companion. This is the most heart-rending and pitiful sight that I have ever seen. Cannot parents and others realize that a child is compelled to learn by degrees; that no soul ever comes into the world with a fully developed sense of ethics; that it must learn through imitation and environment; that the human adult's standard must be reached through painful experiences? Taking older children or parents as standards, imitating them in perfect innocence of wrongdoing, are they to be punished for the very acts or expressions duplicated from these same companions, or, the more the pity, parents? Oh! the injustice, the cruelty, the never to be forgiven or forgotten punishment, for some reason not understood. To thus pierce a child's heart is to degrade one's self and become inhuman, beastly; nay, worse than beastly, for I know of no animal which inflicts needless and cruel punishment upon its young. If we cannot take the dear ones by the hand and lead them into man and womanhood without a sense of revenge or injustice done them in their hearts, we are not fitted to have or associate with them. The way should be sunshine and joy; their development should come as the unfolding of the lily or rose to the sunshine. They should sing as the birds, play as the young of all animals. Come to a sympathetic parent for advice when perplexed; come in the full belief that their doubts or anxieties will receive interested and loving consideration; that they can depart in the knowledge that what they have learned is right and proper. The greatest tribute I ever heard paid a human soul was when a son spoke thus of his father: "Well, I know of but one perfect man on earth, my Father." This sweet thought will be his companion ever; age nor calamity cannot wrest from him this beautiful picture. Experiences and conversations will be lived over and over, bringing an incense of comfort and peace. Not to have this presence is to be desolate indeed.

Be the child's friend and companion.

"They are such little feet:
They have gone such a tiny way to meet
The years which are required to break
Their steps to evenness, and make
Them go
More sure and slow.

"They are such little hands:
Be kind. Things are so new and life but stands
A step beyond the doorway. All around
New days have found
Such tempting things to shine upon, and so
The hands are tempted hard, you know.

"They are such new young lives:
Surely their newness shrives
Them well of many sins: they see so much
That, being immortal, they would touch;
If they would reach
We must not chide but teach.

"They are such fond, dear eyes
That widen to surprise
At every turn; they are so often held
To suns or showers—showers soon dispelled
By looking in our face—
Love asks for such, much grace.

"They are such fair, frail gifts;
Uncertain as the rifts
Of light that lie along the sky—
They may not be here by and by—
Give them not love, but more—above
And harder—patience with the love."

INFUSION (TRANSFUSION) OR SALINE SOLUTION, HYPODERMOCLYSIS, ETC.

(*A Series of Papers by the Editor.*)

TRANSFUSION of blood seems to have originated with Lewer of England, whose work, about the year 1666, records several experiments performed on dogs, into whose veins arterial blood from other dogs was made to flow by direct communication. By some, the first direct transfusion is attributed to Cardenus in 1556. In 1667, Emmerez of France injected nine ounces of lamb's blood into the vein of a man suffering from typhoid fever and who was in a condition of collapse. The man's recovery was attributed to the transfusion. With time, experience proved that the direct transfusion of blood was often followed by serious complications—the blood clotting or air entering the circulation—accidents usually followed by death. To lessen the possibility of clotting during the operation, defibrinated blood was used. This method theoretically, was ideal; practically, however, the dangers attendant upon its performance rendered it unsafe. Landois showed that whipping blood to free it of fibrin does not wholly clear it of corpuscles, while the experiments of Schmitt and Kohler proved defibrinated blood to contain a dangerous fibrin-ferment or intoxicating element. Others showed that acute nephritis frequently followed, when the blood of another animal was injected into the circulation.

It was supposed that the reviving power of transfused blood lay in its corpuscles, but this was shown to be erroneous for the corpuscles are quickly destroyed after their introduction into the new circulation. Later it was shown that the prime object is to restore the volume of the circulating fluid, and that the great danger after hemorrhage lies in the disturbed relation of the blood vessels to their contents. Goltz believes that the fatal issue was due to the comparative emptiness of the vessels, which disturbed the mechanical equilibrium of the circulating process, and that it was not caused by the actual withdrawal of blood from the body which deprived the vital centers of the physiological stimulus imparted to them by the red blood corpuscles. He believed that unless the blood vessels contained a certain quantity of fluid, and unless the blood pressure retained a certain height, the circulation would become impeded. The low arterial pressure would cause stagnation throughout the whole vascular system. For a time, the heart still works on, but ineffectually, and like an empty pump would cease to draw and propel the column of blood. It was further contended that were the blood in the vessels again put into motion, it would be sufficient to sustain life. If the volume of the blood contained within the vessels would be increased by the injection of some fluid, not necessarily blood, the intravascular pressure would thereby be intensified and the action of the heart re-established. Goltz's opinions were hotly assailed by the physiologists of that time, but clinical and experimental evidence was soon forthcoming. Perhaps in all medical literature there is no discussion more bitter than the one carried on at that time, between the adherents of blood transfusion and those supporting Goltz's opinions.

Other fluids were now suggested, among them milk and solutions of sodium chlorid. The intravenous injections of milk were practiced by Hodder, Howe, T. G. Thomas, William Pepper and others, and it was asserted that the results were just as satisfactory as those obtained by the transfusion of blood. But it was soon demonstrated that the undigested casein when transferred into the blood is unassimilable, and that the butyric elements could give rise to chyluria and other disturbances, while

Culcerg showed that fat emboli could form from the agglomeration of the milk corpuscles.

About 1830, Janiches of Moscow, Magendie of France, and Latta of Scotland, suggested infusions of saline solutions as a substitute for blood transfusion. Its use as an effective remedy in Asiatic cholera was brillantly demonstrated during the severe epidemic which then prevailed. Since then this procedure has been practiced in cholera and other exhausting diseases with more or less success, but at no time has anything occurred to indicate that danger accompanied its use. Hunter concluded, from experimental as well as clinical proofs, that a saline infusion answered all the necessary indications without embracing any of the dangers of defibrinated blood. Kronecker and Sander experimented on dogs and found that when they were almost moribund from the loss of blood, the injection of an alkaline salt solution restored them, rapidly raised the blood pressure, and relieved the symptoms. Crile also experimented and found that quantities up to twice the amount of blood calculated to be present in the animal at the time of the injection must be given before the increased blood pressure could be sustained. This proved that in order to meet all the exigencies of a given case, it may be necessary to administer several injections to continue the beneficial effect of saline infusion. He found that a venous infusion of a saline solution increased the blood pressure in the vena cava and in the chambers of the heart, and was followed by an increase in the force of the heart's contractions and by a rise of blood pressure generally.

Hydremia arising from the injection of a salt solution, though greater than that from the transfusion of blood, persists for a shorter time. The regeneration of the blood corpuscles after transfusion with blood requires more than double the time required after saline infusion. It is true that one of the principal functions of the blood—the power to carry oxygen to the tissues—is lacking in the salt solution, but the immediate danger after excessive hemorrhage is not due to this, but rather to the disturbed relation between the calibre of the vessels and the blood contained within them, as has been proved by Goltz.

About the year 1881, Bischoff reported cases of severe post-partum hemorrhage, saved by the infusion of saline solutions. In Bishchoff's case, forty ounces of a .6 per cent. solution of chlorid of sodium, to which a little potassa was added, were injected into the radial artery. His patient recovered. He preferred the artery to the vein, as thus the solution is made to traverse the capillary system before reaching the heart, and because he thereby avoided the danger of a venous embolus. He said that the quantity should be at least 500 grams, and that it is best to render the solution slightly alkaline (as pointed out by Schwarz) prepared by the addition of the hydrated oxid of sodium. In his case this was not used simply because it was not at hand. Recently Newman reported a successful case of acute anemia due to post-partum hemorrhage. A woman of 34, almost moribund, was injected into the medium cephalic vein with about ten ounces of Little's solution (sod. chlor. 50 grains, potass. chlor. 2 grains and water, one pint) warmed to 100° F.

Most gratifying results with saline solutions have also been obtained, in two extreme cases of hemorrhage following abortion. In each of these cases, about a half gallon of hot saline solution was thrown into the rectum and held there for a half hour. The patients who were virtually in a state of collapse, pulseless and very pallid, were soon restored. The hemorrhage also ceased. This last feature—the hemostatic effect—has been confirmed by many observers, and it has been given in all forms of hemorrhage, gastric and intestinal ulcers, in pulmonary hemorrhage, etc.

Bull's records show several successful cases of saline infusion for the collapse after inhaling illuminating gas, and also for acute anemia after hemorrhage. In most cases, Schwarz's solution, consisting of common salt, 6.0 grms.; liquor soda, gtt. 2, and distilled water 1000.0 grms., warmed to 100°-104° F. was injected into one of the veins at the bend of the elbow.

Dawbarn reports several cases of shock due to excessive hemorrhage, one from the effects of an operation; and one case, that of an infant of five months, nearly moribund from severe purgation in gastroenteritis. Dawbarn's method for administering the saline solution is an ingenious one. His plan consists in the insertion of a plain hypodermic needle into the common femoral artery, and through this, forcing the salt solution, by means of an ordinary Davidson syringe, directly into the blood current. Dawbarn urged, upon physiological grounds, that the salt solution should be very hot, even as high as 140° F. In all cases, the treatment proved successful. Greenley, too, reported a case of a child with gastroenteritis who was thoroughly exhausted from the excessive purgation treated by a rectal enema of about a pint of hot saline solution. In less than a half hour, the pulse which previously could not be counted, began to improve. Complete recovery, under appropriate treatment, followed in a few days.

Patients with severe iodoform poisoning have been restored by saline infusions of a pint and a half in each case.

During the cholera epidemic at Hamburg in 1892, the intravenous and subcutaneous saline injections were largely used with marked benefit. While this mode of treatment did not repair the injury done by the poison to the heart muscle or to the vasomotor nerves it did, apparently, dilute the poison, carry off the deleterious products of metabolism, stimulate the heart's action, and give the vital forces time to combat the poison. Liebermeister aptly suggests that saline infusions would be more likely to be attended with permanent good effects, if it were begun earlier in the course of the disease, before the vital organs (heart, kidneys, etc.) become so gravely injured by the loss of water. The effect of these infusions on cholera patients is sometimes astounding. The cyanotic, algid, pulseless patient, with sunken, lustreless eyes and shrunken features, with the aspect of one on the verge of dissolution, will as if by magic arouse himself and give expression to a general well being. Sir B. W. Richardson highly lauds peritoneal infusion of saline solution in the collapse of cholera.

Saline infusions have been used of late in the treatment of pneumonia with varying success. Ewart and Percival report their results from subcutaneous saline infusions. They describe six very severe cases, and, while no definitely favorable influences were apparent upon the course of the disease, no unfavorable symptoms followed this method of therapy. In some cases, it appeared to delay the fatal issue. The post-mortem examination did not show any notable change in the lung tissue. Neuhoff's experience was different. He found that the injection of chlorid of sodium solutions acted like a heart tonic and increased the secretions. Newhoff says that this therapeutic agent is contraindicated in pulmonary edema. He strenuously objects to saline infusion in any stage of pneumonia, owing to the probable existence of pulmonary edema.

The decided diuretic effect of saline infusions has been taken advantage of in the treatment of albuminuria and uremia. Dropsy of the organs or serous cavities contraindicate its use, however, on account of the danger of heart failure occurring in consequence of over-stimulation of the organ already weakened by myocardial degeneration. It is doubtful whether it is possible for infusions to dilute the toxins formed in pneumonia. Clinical evidence of this therapeutic action, however, has been remarked by some observers. As an internal detergent, it has been used with signal success in nearly all toxemias, whether from septic poisoning or in puerperal fever, acute infectious diseases, typhoid fever, the exanthema, tuberculosis, etc., and in acute and chronic diseases of the liver, kidney or other excretory organs. It has been found to bring prompt results in diabetic coma, and in the prostration following the excessive ingestion of alcohol, opium or other drugs. It has been suggested that in cases of threatened or actual diabetic coma, where it is deemed necessary to alkalinize the blood, sodium carbonate may be substituted for a portion of the sodium chlorid.

Acting on the theory of diluting the poison in the body which causes the bleeding in purpura hemorrhagica, normal salt solution subcutaneously injected has afforded relief after several injections. The quantity of blood in the urine diminished, the subcutaneous ecchymosis began to absorb, and there was a marked change for the better in the patient's general condition. These good results must be credited to the power of the saline solution to dilute the poison, and to its well known stimulating effect on all the emanations of the body by which these deleterious products may be thrown off. Von Belina records a case of puerperal eclampsia successfully treated with saline infusion.

Warbasse contributes to the *Medical News* of March 2d, 1901, a paper on the treatment of delirium tremens by the intravenous infusion of salt solution. The case was that of a man of 30 years of age who was suffering from a very severe attack of delirium tremens, which promised to terminate fatally within a very short time. About forty ounces of a saline solution at a temperature of 116° F. were injected into the median cephalic vein. Within a few hours, the circulation improved, the delirium subsided, and the patient regained consciousness. His recovery was a rapid one.

In the treatment of those cases where there is obstinate constipation alternating with diarrhea, or either of these alone, the rectal administration of a solution made by dissolving ordinary crystallized soda (about an ounce and a half) in three pints of rain water is recommended. This is injected into the rectum every day for five days and retained there for about five minutes. This has the effect of cleansing the bowels. Then five more daily injections are made with the same solution to which about a tablespoonful of sodium chlorid is added. This treatment succeeded in curing a number of cases.

The value of rectal injections of hot saline solutions in overcoming collapse due to severe hemorrhage or excessive purgation has been highly lauded by many writers. This method has several advantages over the use of saline solutions by transfusion or hypodermoclysis, it taking less time, gives less pain, is not dangerous, and does not require any special apparatus. Rigid rules of asepsis need not be followed, a matter of much moment when quick action rules. All that is necessary is an ordinary fountain syringe, and in its absence a common hard rubber syringe will serve the purpose. About two or three pints of water heated to 105°-110° F., containing one ounce of ordinary table salt to the gallon of water, may be injected into the lower bowel and retained there by pressure on the anus. The fluid is rapidly absorbed in the sigmoid flexure and colon.

Lucien Lofton describes the method of treating hemorrhoids which was first tried about two years ago. It consists in injecting into the little tumor masses a very hot decinormal salt solution, usually about one to two and a half drams. He observed the following phenomena: immediately after the injection the parts would turn a pink red color, but within a minute or two would become blanched. There is little or no pain from the hot water (perhaps owing to its anesthetic effect) and no inconvenience save a feeling of fullness about the rectum. In a few days, examination reveals each tumor mass in a state of slough. These are easily removed by means of a pair of forceps, without causing any pain or hemorrhage. Lofton has treated 17 cases by this method and claims a cure in each case. He attributes the therapeutic action of the procedure to the escharotic action of the hot water and not to any specific effect of the saline solution.

Mengus relates a case of hydrocele of the tunica vaginalis testis that had relapsed after the employment of an injection of tincture of iodin. It was cured by injecting a boiled and filtered 0.7 per cent. solution of sodium chlorid at a temperature of 104° F.

Normal saline solutions have been employed as local applications in a number of external diseases, such as severe burns, ulcers, and chronic suppurating wounds. There is no danger of using too much, but rather the danger of using too little. The wound should be dressed in the ordinary manner, sterilized gauze next to the surface and over it a thick layer of absorbent cotton. This should be thoroughly saturated with saline solution, and over all placed an impervious covering, oil silk or something of that nature. If the denuded surface is large and absorption rapid, the dressings should be frequently moistened with the same solution. There is rapid relief from pain, while the resulting cicatrix is slight compared with that following other methods of treatment.

Before attempting skin grafting, the majority of surgeons prepare both the granulating surface and the part from which the transplantation is to be made by thorough irrigation with warm normal saline solution. The use of antiseptics prevents the successful "taking" of the skin-grafts, hence in this procedure asepsis and the use of salines are practiced. Some surgeons after the grafting prefer dry sterilized protective dressings, while many advocate a dressing moistened with normal salt solution.

Some very interesting experiments were made by Cookley as to the results following intraorganic injections of normal salt solution. He found that after the injection of a few c.cm. of saturated salt solution into the pericardium of a dog nearly bled to death, the heart's action was restored. The author also maintains that such injections retard carbon dioxid narcosis by absorbing the gas and that it is a powerful stimulant to a failing heart.

What is meant by a normal and a decinormal salt solution? Physiologic salt solution or physiologic saline solution is approximately a decinormal solution (1-10 the strength of "normal" solution) of sodium chlorid. It is called physiologic from its use in experiments on blood in the laboratory. Solutions of sodium chlorid, containing 0.65 to 0.70 per cent. of that salt preserve the blood corpuscles from shriveling and disintegration when drawn from the veins. The total percentage of the saline constituents and the properties of the several salts (sulfates, carbonates, etc.) contained in normal blood varies according to different observers. Of sodium chlorid there is about 0.5 per cent. and of the other sodium salts, sulfates, carbonates, phosphates, about 0.1 per cent. additional; potassium, calcium and magnesium salts bring up the total to a figure according to one writer, as 0.645 per cent. and by others to 0.9 per cent. The therapeutical saline solution cannot, therefore, be made to comply with a fixed standard. When the emergency demands its use, there is no time for quibbling over figures. A dram of common table salt to a pint of sterilized water, and the resulting solution, again sterilized, is satisfactory for any purpose, and is easily remembered.

To sum up the different methods of its application, we find there are six ways in which saline solution may be employed:

1. Infusion into a vein (median cephalic vein).
2. Infusion into an artery (radial artery —Dawbarn's method).

Operation. The vessel is exposed and tied with a ligature. It is then seized with a fine dissecting forceps and a small incision is made into it. If the artery is the vessel employed, the incision is made on the distal side of the ligature; if it is a vein, the incision is made on the proximal side. A slightly bent canula is now introduced into the vessel and tied in. A rubber tubing is attached, on one end of which is a funnel. The fluid poured into the funnel finds its way into the blood vessel. Care must be taken that no air enters into the circulation. This may be avoided by allowing some of the fluid to flow through the tube and canula before the latter is introduced into the blood vessel. Fluid should not be allowed to enter the circulation at a faster rate than one ounce to the minute.

3. Hypodermoclysis—an injection into the subcutaneous cellular tissue. (Valuable in cases of less urgency.) Twenty to thirty ounces of fluid can be readily forced into the connective tissue spaces. A fair-sized aspirating needle connected to a piece of rubber tubing and funnel is all that is necessary. A little massage of the tissues about the point of puncture is desirable. The hypochondrium and the region just below the mammary glands (in women) the usual sites of predilection. Some recommend the axillary region for the performance of hypodermoclysis.

4. Peritoneal infusion.
5. Rectal infusion.
6. Local application.

TWO OF A KIND.

The *Journal of American Medical Association* gives the following story to illustrate "the responsibility of accoucheurs." It is an unwarrantable attempt to shift the responsibility from doctor to nurse.

The Responsibility of Accoucheurs.—A British physician has lost his fees under the following circumstances: A woman, whom he was engaged to attend in labor, was delivered before his arival. He asked the nurse to examine the placenta. On the following days he asked the nurse if she was douching the patient, and when told that she was, asked if she had boiled the tube. He was told that she had not. On the fifth day there was a rise of temperature and again on the ninth. On the fifteenth day there was a rigor; a consultation was held, and an offensive portion of the placenta was removed. Death from septicemia followed. When the physician sent in his bill for $65 the husband refused to pay and claimed $250 for neglect. The case was taken to court. In her evidence the nurse stated that she told the physician that the lochial discharge was offensive, but that he having a cold did not notice the smell and so made no examination until alarm was caused by the rigor. The jury found that in not making an examination at this time he had committed an error of judgment and was therefore not entitled to his fees. They also found damages against him for the nominal amount of 24 cents.

DOCTOR WAINWRIGHT'S SHAKSPERE'S MEDICAL AND SURGICAL KNOWLEDGE IN BOOK FORM.

Because of numerous requests for reprints of the articles which ran serially through the Dietetic and Hygienic Gazette for almost a year, and the expressed desire on the part of many who read the articles, that they be put into permanent or book form, a limited number of copies will be printed and ready for delivery about December 15th, 1907. They will be printed on old Stratford paper, handsomely bound in boards, serially numbered with the author's autograph, an author's edition in fact. An unique and the only authentic portrait of Shakspere which was printed during his lifetime will be included in the volume, a photo engraving painted on India paper, with its history, making a very handsome and interesting volume of some 120 pages.

An introduction has been written and new matter added to that which appeared in the Gazette.

There are some 135 quotations with explanatory comments, with plays, act and scene given after each quotation, together with a copious index.

Subscribers and friends who wish a copy of this, the author's edition, serially numbered and autographed, are requested to sign and mail at once to the publishers of the Gazette the slip to be found on page xix among the advertisements.

LONDON LETTER.

A Hygienic Eisteddfod has been held recently in England. Rather, perhaps, it might be said that the British Sanitary Inspectors' Association foregathered on September 16 at Llandudno, in Wales. Its president for the year was the orator of the medical profession in this country, Sir James Crichton Browne. Sir James quite lived up to his reputation as an eloquent speaker, and in addition afforded a few sensations. He criticized righly enough the laxity exhibited in the inspection of lodging houses at seaside resorts, and declared that holiday seekers ought not in matters of ventilation and sanitation "to be worse off than the patrons of the common lodging houses, nor tourists than tramps." But the new British Food Regulations Act and its author, Mr. John Burns, were the subjects concerning which Sir James was most lavish with his encomiums. The new act will draw "a maritime cordon"—with the sanitary inspectors for the torpedo boats off every port—"of food safety round the country." That is to say, the inspection of all foods imported into Great Britain will be far more rigid than ever before. However, the speaker did not forget to draw attention to the fact that we flourish, or otherwise, on home supplies of food as well as on imported alien poisons. Sir James dealt faithfully with these latter, and stated that against unclean milk he had been waging a crusade for a decade or so by, as an educationalist, giving the milk of the cow precedence over the milk of the world as a factor in the wholesome upbringing of children. He had little to add beyond springing a claim on the immortal bard as the first milk inspector who knew his business. "She can milk, look you, a sweet virtue in a maid with clean hands"—"Two Gentlemen of Verona." He asserted emphatically that if we would reduce infant mortality, diminish sickness and debility, prevent occasional outbreaks of infectious disease, and improve the race we must see to our milk supply, and for this purpose he regards a complete reorganization of the whole milk trade throughout Great Britain as inevitable. The second interim report of the Royal Commission on Tuberculosis, establishing the identity of the disease in man and animals, had prepared the way for notification of tuberculosis in cattle, regular veterinary inspection of all milch cows, conducted under the control of county councils, reasonable compensation for tuberculous animals destroyed, and the annual licensing of all premises on which milk is sold. I am devoting much space to a consideration of Sir J. Browne's speech, both because it touches closely and well on matters interesting to readers of this journal, and because it deals with the matter of diet especially. Regarding the British meat supply, Sir James forthwith advocated the abolition of private slaughterhouses, the provision of public abattoirs, which most civilized communities in Europe have adopted, and a central office for meat inspection. Then we shall no longer find "prize Christmas fat beef absolutely rotten with generalized tuberculosis." "If Chicago has its jungle, London has its Christmas swamp." A great deal of jam is concocted in London, and quotations were read from the report of one of the lady inspectors showing that much, if not the most of such preserve, was made from fruit which was unsaleable for other purposes. If the public will not protect itself, it has surely itself to thank if it finds inspectors to protect it. That the public will not protect itself is evidenced by the fact that a certain "Finest Raspberry Jam," an American brand, bears on its label this ingenuous inscription: "This jam is made of glucose with artificial seeds and colored with harmless aniline dyes." The candor exhibited in this label is said to be rewarded by a large sale.

One part of the speech has provoked much adverse criticism, the part in which the speaker disclaimed any affection for the "amiable faddists who are now briskly disporting themselves over the food field. So vigorous indeed are the onslaughts of dietetic ascetics "that in dread of being suspected of gluttony we can only indulge a healthy appetite in secret." In truth, if we were to give ear to all the quasi-scientific counsels and objurgations that are now on tap "we should soon be in a very piteous plight—healthy, perhaps, in the sense of giving fine dynamometric results, but profoundly miserable, while cultivating inanity on lentils and distilled water." To the question frequently put to him as to whether this or that is wholesome Sir James has come to reply in a composite quotation from Byron and the Scriptures: "Take the gifts the gods provide thee. Nothing is common or unclean."

This portion of the speech has aroused the vegetarians, who are very much in evidence in these days, and as it is what is known as the silly season for English lay journals, a correspondence, in the form of discussions, between vegetarians and anti-vegetarians has been initiated in certain prominent London papers which promises to be of almost interminable length.

The most startling statement put forth in this presidential address was that "sweets," better known in America as candy, were largely manufactured containing chloroform. Such "sweets" are made in the form of lozenges, and are labelled liquorice, linseed or chlorodyne lozenges, and are swallowed in large quantities by those who appreciate their sedative and narcotic effects; by women who find they can obtain the obfuscation they desire while avoiding the sense of shame that attends being seen entering the public house; by errand boys and shop girls; and even by school children. Analysis showed that the lozenges contained chloroform in slightly variable quantity; and in the quantities of the lozenges taken, the dose arrived at was clearly dangerous. Finally Sir James said, referring to the conditions of vice: "Nuisances are the fertile mothers of immoralities, filth for the most part is the hotbed of depravity. Dirt was defined by Tyndall as 'matter in the wrong place.' Vice is mind in the wrong place."

A crusade is being begun in Great Britain against proprietary and patent medicines. Or it might be said against the abuses of this trade. Next to America, Great Britain is by far the largest consumer of secret nostrums. In Australia a sensation has been made by the publication of a report on patent medicines, secret cures, and nostrums of all kinds, by Mr. O. C. Beale, who was given a Royal Commission by the Commonwealth Government nearly a year ago to conduct an international investigation into this subject. Mr. Beale's recommendations to abate the so-called "nostrum evil" are sweeping. He would compel every preparation to reveal the formula of its contents on the bottle or tin. The importation, manufacture, or holding for sale of certain preparations he would make a felony. He would insist on the compulsory registration of every proprietary name which is applied to any preparation. He would have all foods and patent medicines examined, and only sold or made under governmental regulations. He advocates equally drastic remedies for the abuses in connection with advertising. The English Board of Education have decided to establish a medical department to advise and assist them in the discharge of the new duties imposed on the board by the provisions of the education act in regard to the medical inspection of school children. As a first step the president of the board has appointed Dr. G. Newman as chief medical officer of the board. Dr. Newman is a well-known authority on matters relating to public health, and has published various works and official reports dealing with state medicine.

A New York advocate about a year ago was injured by a motor-car near Lisieux in France. He was taken to the hospital of that town and died there some weeks later. The family of the deceased have founded a new ward, in his memory, which is to be specially used for the victims of motor-car accidents.

In London during the month of August there were 13 cases of epidemic cerebro-spinal fever notified. In Scotland during the week ended September 14 there were ten deaths from this cause registered in Glasgow, six in Edinburgh and two in Dundee. In Belfast, Ireland, during the week ended September 15 there were five deaths registered as being due to this cause.

A very great British surgeon, in fact one of the great figures of Victorian surgery, has died in London recently. Mr. Timothy Holmes was [illegible] years of age at the time of his death, and was senior consulting surgeon to St. George's Hospital. He was educated at Cambridge University, where he was a wrangler as well as thirteenth classic. He was a writer of exceptional ability, a splendid operator and a very capable man of affairs.

CORRESPONDENCE.

West Falmouth, Mass., September, 190[illegible].

Editor Dietetic and Hygienic Gazette:

Dear Sir: Some Arlington wheatmeal was moistened with water to slight plasticity. It was then put in cold storage of 40° F. for several days, tested for sugar with the Fehling copper solution and the reaction was normally characteristic. As this result has been obtained right along in [illegible] cooking by heat, it is thought this might be termed cooking by 40° F.

Ephraim Cutter, M.D.

Reviews of Current Literature.

LONGEVITY AND THE MEANS OF ATTAINING IT.

In an interesting paper on this subject Brunton, in the *Lancet* of November 17, 1907, gives the following advice:

As a raised blood pressure is itself productive of degenerative changes in the vessels, we have good grounds for believing that if the rise be detected early and counteracted by proper regimen and treatment the vascular changes which it would otherwise produce might be prevented and life very considerably prolonged. The earlier this is done the better, and it is only likely to be done by the sphygmomanometer being used as frequently by the physician as the stethescope or thermometer is at present, and with an instrument like Potain's modification of von Bach's the pressure can be taken as quickly and as easily as the pulse rate can be ascertained by the finger. When the tension is found to be above the normal for the age, attention should be directed at once to diet. Butcher's meat and strong soups or sauces containing meat extract should be prohibited, or only allowed in very limited quantity. Where the tension is very high it may be necessary to limit the diet very rigidly, indeed, and only allow farinaceous foods with a small proportion of proteids.

The author remembers being called to see a case of cardiac asthma. The patient had an income of about £30,000 a year, and had a medical man whose sole duty it was to look after him. The first question the author asked was whether the urine was free from albumin. He was told that it was, but on getting it found it to be almost like water, to have a very low specific gravity, and on acidulating it with acetic acid and boiling the top he found a faint haze which is so significant of gouty kidney, but which can sometimes only be seen by boiling the top of the test tube so as to have the lower part for comparison, and viewing the top against a dark background. He at once advised that the patient's diet should be cut down to simple farinaceous food and milk, and upon this diet he soon became quite free from his attacks. While away for a trip on the continent, the author heard of the old man's death, and supposed that some one else had been called in who regarded it as a burning shame that such a rich old man should be put upon pauper's diet, and yet this was all he could stand, and a more liberal allowance of food would suffice to kill him.

The number of old people who die in workhouses is generally thought to be considerable. The author has been unable to get any account of the numbers above ninety years of age, but in 1901 the proportion of workhouse paupers to 1,000,000 of the total number living at the same age of eighty-five or upwards was 95,631, that is to say, very nearly 1 to 10. A workhouse diet may not be very pleasing to the palate, but it certainly seems an efficient means of prolonging life, and it might certainly be worth while sometimes for others to adopt it whose circumstances would allow of them to indulge in luxury.

Amongst other things which tend to lower the pressure are certainly the use of cholagogues and purgatives, mercurials, such as blue pill or calomel at night once or twice a week, followed by a saline in the morning, as often as may seem necessary. Iodid of potassium does appear to lessen the tension in many cases, especially when given in large doses, such as from 10 to 30 grains three times a day. The most efficient drugs for lowering blood pressure are the nitrites or nitrates, a class of bodies the physiological action of which was so well investigated by the late Professor Leech, whose death in the prime of life was not only a great loss to scientific medicine, but a personal sorrow to every one who knew him. Nitrite of amyl and nitrite of isobutyl have a more rapid action than any other of the series, and are useful in cutting short a paroxysm of pain. Nitroglycerin not only has a similar use, but it can be given in divided doses during the day to keep the tension low. Nitroerythrol has a still slower and more prolonged action, and half a grain or more three or four times a day often suffices to keep the tension within moderate limits and completely to prevent attacks of angina, which previously had occurred many times a day.

Latterly the author has very frequently given nitrate of potash with nitrate of soda to reduce blood pressure. A dose of twenty grains of nitrate of potash with half a grain to two grains or more of nitrate of soda in a large tumbler of water every morning appears to have a double action in reducing tension, first, by acting directly on the vessels, and secondly, by clearing out products of tissue waste by virtue of its diuretic action. The author described at the meeting of the British Medical Association in Manchester in 1902 the way in which he was led to use this combination, and he was very much interested to find quite recently that the very remedy which he was employing in consequence of pharmacological researches upon its action had been used empirically for the same purpose nearly 450 years ago by Lord Bacon, who placed his reliance chiefly in blood-letting and the use of saltpeter as the best means of attaining long life.

DANGERS OF IMPURE FOODS.

IMPURE foods are classified by Dr. Vaughan in *St. Paul Medical Journal*, April, 1907, as:

(1) A food that is deficient in nutritive and economic value or does not contain the food principles in normal amount, as for example milk that has been skimmed or diluted, sausages filled with peas, beans, potatoes, etc.

(2) One that is adulterated or mixed with some article of inferior value, as butter coloring, cheese filled with lard, cream colored and given body by gelatin, wheat flour mixed with rye, corn or starch. Fresh fruits and vegetables cannot be adulterated, but the field is broad for canned goods. Jams and jellies made from glucose and apple juice, including core and parings, to some even timothy seed is added to deceive by being accepted as evidence of fruit seeds. Canned goods in themselves are not dangerous if the process is carried out thoroughly and conscientiously. Meat and other foods are first sterilized, then packed in air-tight containers. The danger is in imperfect sterilization leaving bacteria to multiply within the can or that new bacteria may enter if can is not tight. Always examine ends of can, which should concave; if they are bulged out it is fair to infer that bacteria have been at work inside forming gas. Ground coffee is adulterated with ground cereals, peas, beans, etc. Spent tea leaves are dried and mixed with fresh leaves.

(3) One that is made to appear better than it is as process or renovated butter. Rancid butter is heated until the fat melts, curd and brine are drawn off and air blown through the liquid fat to remove the odors; then it is poured into milk, churned and rapidly cooled, when it becomes granular and can be worked. The above impurities are relative rather than absolute, as none of them contain substances actually harmful to the body. They are, however, commercial frauds and the purchaser pays for more than he gets.

(4) A food that is partially decomposed.

(5) That from a diseased animal.

(6) One infected with organisms that may produce disease in man, as the introduction of poison producing bacteria into food before its consumption, the greatest example of which is summer diarrheas due to impure milk. Cleanliness at the dairy, refrigeration in transportation and sterilization are now required for the bottle-fed baby. Cheese, custards, ice cream, cream puffs are also liable to bacterial infection during hot weather.

(7) A food to which any substance harmful or detrimental to health has been added, as the addition of preservatives to keep food in a fresh state. Formaldehyde in milk will prevent souring, but does not limit the growth of colon and typhoid bacilli. In such cases preservatives are actually dangerous, as they remove the danger signal but leave the danger. An article to be a poison need not kill immediately. Dr. Vaughan defines a poison as any substance that destroys or impairs the action of certain cells of the body and the immediate effect on the life of the individual depends on the number of cells put out of commission.

Three factors are essential in a food preservative: (a) It must keep the food in a wholesome condition, not merely retaining the appearance of freshness. (b) In the largest quantities used it must not materially impair any of the digestive processes. (c) It must not be a cell poison, or if such it must be handled by persons qualified and officially authorized to do so.

DIET AFTER WEANING.

PROCESS of weaning should begin about the twelfth or fourteenth month and should be gradual, allowing one or two months for completion. Dr. Polozker, in *Detroit Medical Journal*, Jan., 1907, recommends the use of thoroughly cooked cereals before weaning, beginning about the ninth month, using oatmeal, barley and rice. Ready prepared cereal foods are condemned, as they are insufficiently cooked. Most children are fed too much, and to obviate that difficulty the following diet is recommended for the second year: 6.00 or 6.30 A.M. give six or seven ounces of milk and two or three ounces of cereal gruel; 8.30 or 9.00 orange juice; 10.00 or 10.30 give ten ounces of milk and gruel mixture of either oatmeal or barley; 2 00 P.M. four ounces of milk and four or six ounces chicken or mutton broth. After fourteen months old add an egg to this meal. 6.00 P.M. ten ounces of half gruel and half milk. A night-feeding at 10 P.M. of milk and gruel in a bottle will help the infant sleep throughout the night. During the last six months other fruit juices may be added, as prunes, plums and grapes. Gruel may be thicker like gruel jellies, or may add farina or cream of wheat well cooked to the noon meal. Meat should not be given before the age of three, and then scraped or finely divided beef or mutton. Ham, sausage, bacon, liver, kidney, dried and salted meats, canned vegetables or onions, celery and tomatoes should not be given to children at all. Tea and coffee are in the same category as alcoholic beverages and therefore tabooed.

In the same journal Dr. Cooley gives a table of caloric values for use in infant feeding:

An ounce of fat yields 263 calories.
An ounce of proteid yields 116 calories.
An ounce of carbohydrate yields 116 calories.

Of the common proprietary foods:

Malted milk yields 16.5 calories per drachm
Eskay's food yields 15.4 calories per drachm

Mellin's food yields 14.6 calories per drachm.
Nestle's food yields 14.2 calories per drachm
Ridge's food yields 14.5 calories per drachm.
Imperial Granum yields 14.5 calories per drachm.
One ounce whey, 8-10 calories.
Four per cent. milk, 20 calories.
Seven per cent milk, 27.5 calories.
Ten per cent milk, 35 calories.
Sixteen per cent milk, 50 calories.

DIET IN PULMONARY TUBERCULOSIS.

Although there is some danger of overfeeding a tuberculous patient the greatest difficulty is to get them to eat enough, eat slowly and masticate thoroughly. A patient should lie down an hour before and after each meal. Dr. Clapp (*Medical Record,* June 29, 1907) gives a mixed diet, consisting of this proportion: Proteids 120 gms., fat 140 gms., and carbohydrates 300. Fats are especially necessary and are easily assimilated in milk, cream and butter, olive and cottonseed oil. The last two are recommended to replace the nauseous codliver oil. Eat five or six times a day, consuming two or three quarts of milk and six eggs, in addition to three square meals with plenty of meat. Milk in large quantities is a laxative. Raw beef is easily digested and beneficial for diarrhœa. Tea, coffee and cocoa moderately; alcoholic beverages interdicted absolutely; smoking allowed in moderation out-of-doors.

DIETING AND COOKING FOR CURE AND PREVENTION OF CONSUMPTION.

Consumption as a disease of mal-nutrition can be prevented by proper dieting. Dr. Keyes, in *Pacific Medical Journal,* May, 1907, lays special stress on milk diet, especially in the form of Koumiss. In southeastern Russia this is made of mare's milk, bottled in smoked skin of horse's quarter. It is a fermented and predigested milk but not curdled by the juices of the stomach. Albuminates are converted into peptones, casein into solid albumin and peptone, and milk sugar into lactose and alcohol. It is a diuretic and thus relieves congested mucous membranes. It improves vascular and muscular tone and gives a ruddy complexion. In connection with this treatment he recommends subcutaneous injection of oil. For those who dislike milk a thick bean soup with large amount of butter gives good results. Bean milk is prepared by soaking, crushing, then boiling the beans and straining. To this is added a large quantity of butter. As compared with cow's milk it is poorer in albuminoids and fat, but is a very good substitute. Food should be well cooked with large quantities of fats, butter and oils so incorporated as to be palatable. Gravies and dressing rich in fat and butter, one or two vegetables cooked in butter at each meal.

PERSONAL HYGIENE.

There are two standpoints of personal hygiene, mental and physical. Mental may be defective from alcoholism, syphilis or gonorrhea. Physical hygiene depends on excretion of waste or by products and if sewers are clogged disease follows. Dr. Reese, in *New York State Journal of Medicine,* July, 1907, considers the skin the most important excretory organ. It radiates heat, eliminates moisture and salts of the body. Exercise and baths therefore are necessary for healthy skin. Stricture of urethra is sometimes followed by insanity, as any affection of genitourinary system has a depressing effect on mentality. Constipation, spasm of sphincter ani, piles and pruritus causing inactivity of lower bowel is accompanied by baneful results. Fibroids of the uterus or retarding discharges of uterus by anteflexion or narrowing internal os results in neurasthenia, obstinate headache and chronic inflammation of uterine structures. Obstruction of discharges of nose by adenoids, enlarged tonsils or chronic rhinitis, or closure of external auditory canal by cerumen or a catarrhal closure of eustachian tubes will cause the severest headaches. Decayed teeth and unclean mouth should be turned over to a dentist immediately.

MODERN AIDS TO THE TORTURE OF THE SICK.

An editorial in the *Interstate Medical Journal,* July, 1907, copies from a daily paper a very vivid description of a patient just becoming conscious, desirous of knowing where and how he is, why he is there, wondering how business is at the office, how and where are the family. All he sees is the thing of cap and gown which says "swallow," "keep quiet," "go to sleep," refuses to answer questions, yet devotes no time to soothing feverish nerves. She creaks in the rocker just out of sight embroidering fantastic roses and her record kept for the doctor gives the patient credit for eight hours sleep, while she was in reality taking it for him. The editorial comment sees a great possibility for a lay sermon, especially for nurses who assume certain airs and neglect the relationship between themselves and their patients. Psychology and tact should be taught in training schools not only to nurses, but to superintendents and principals, in order that they may pick their material for nurses.

REMOTER EFFECTS OF STOMACH DERANGEMENT.

INFLUENCE of stomach disorders on the blood is shown by anemias, deficiency in both red and white corpuscles and lessening of disease-resisting power. Nutritional disturbances, usually due to interference with digestion, causing subnutrition by insufficient food, either by loss of appetite, disgust for food, or fear of pain. A diseased stomach may cause uric acid accumulation and also phosphaturia. On the heart and circulation, stomach disorders have both immediate and remote effects by proximity and by nerve supply. Strong excitation of mucous membrane of stomach makes heart's action slow. Palpitation is frequently an accompaniment of gastric disturbance. Period of digestion should be one of rest, mental and physical. Pathological digestion acts on nervous system, causing headache, insomnia, neurasthenia, vertigo, tetany and even gastric epileptiform convulsions which must be differentiated from gastric aurae.—DR. IRWEL, *Medical Standard*, April, 1907.

EARLY SYMPTOMS OF PERNICIOUS ANEMIA.

IT is generally considered that pernicious anemia is a toxemia whose origin is in the intestinal canal. Dr. Lichty, in the *Journal of A. M. A.*, June 29, 1907, endeavors to tabulate the symptoms that appear before a blood picture of megaloblasts, megalocytes, poikilocytes and leucopemia can be demonstrated. Digestive, nervous and cardiovascular symptoms occurring without apparent cause are indicative of pernicious anemia. Achylia gastrica is the earliest, and may appear six years before the blood picture. Neuritis, tabetic symptoms and symptoms of spinal disease are the more frequent nervous symptoms. Palpitation, distress, dyspnea, sleeplessness, small hemorrhages, edema and symptoms of broken compensation of the cardiovascular system. One group of symptoms alone is not sufficient to make a diagnosis, but the appearance of several group symptoms is very suspicious. Appearance of megaloblasts is prognostic rather than diagnostic, as they appear in greater numbers a few weeks before death.

FEDERAL INTEREST IN THE HEALTH OF THE PEOPLE.

AN editorial in *St. Louis Courier of Medicine*, June, 1907, asks the very timely question, "Why don't we have a sanitary general to look after the health of the country?" The government is spending money on study of infusoria dredged from the sea; it is protecting clams, lobsters and shad from disease. If a pig has tuberculosis sheep has anthrax, a secretary of the Cabinet his attention to it, but who exhibits any in the health of the President and his Cab aside from those individuals themselves?

PRE-ICTERIC ITCHING.

ITCHING for a few days or even a month appearance of jaundice is a possible, though occurrence. Dr. Riesman, in *American Med* February, 1907, reports several cases in his practice, and cites other authors on the He discusses the usual theory that pruritus to deposits of bile pigment in the skin, but to that theory in view of the cases in which ing preceded the deposit. His theory is that metabolic poison which the liver in normal would neutralize is allowed to flow into stream or lymphatics. Itching occurs in only one-fifth of cases and bears no constant rela depth of jaundice; it may even come and a given case without any change in the Pre-icteric itching is of prognostic signific and although not enough cases have been rep to prove it, yet all the cases so far have been lignant rather than benign.

THE DIAGNOSIS ON PANCREATIC DISEASE.

THE difficulty of diagnosing the presen disease of the pancreas is a matter of commo perience, and such disease often escapes reco tion during the life of the patient. The pri clinical signs and symptoms on which the nosis is made are (1) the presence of undig fat in the stools, (2) an epigastric tumor, and glycosuria. The simultaneous presence three is highly suggestive, although not abso pathognomonic, of pancreatic disease; any them alone is quite useless as evidence. F stance, undigested fat may be found in obstr of the common bile-duct, due to other causes pancreatic disease, or may be altogether when the pancreas is extensively affected; where this is also the case there may be no suria. Further, there may be advanced disea the organ without a palpable epigastric and even when one is present it is not often sible to attribute it definitely to the pancre When one remembers the complicated anato the upper half of the abdomen it will be understood that such a tumor may have its equally well in the gall-bladder, pylorus, liver, even kidney; and the writer remembers a case epigastric tumor which was diagnosed as being ancreatic origin, but which was found on the perating-table to be caused by a mesenteric cyst. f the difficulties which face the surgeon in diagnosing the presence of disease of the pancreas are so great, it is easy to understand that the difficulty of discovering the nature of the disease is immeasurably greater. For the simplification of these difficulties the profession at large is indebted to Dr. P. J. Cammidge, who has invented a reaction which has been named after him, "Cammidge's Pancreatic Reaction."

According to Taylor, *Lancet*, June 30, 1906, his line of argument is as follows: "Just as in hepatic disease the constituents of the bile are known to get into the blood and appear in the urine, so in pancreatic disease the constituents of the pancreatic juice may get into the blood and appear in the urine. Now if pancreatic juice were circulating in the blood, one of its possible effects would be the splitting up of the body fat into fatty acids and glycerine. Such a splitting up does occur in acute pancreatitis and is manifested in the phenomenon of fat necrosis. But in the areas of fat necrosis free fatty acids are found; therefore the glycerine must go somewhere. Can it be found in the urine?" Dr. Cammidge asserts that this is the case, and the whole object of his process is to demonstrate this glycerine or glycerine derivative in the urine. He first explained the technique of his method in 1904. Two reactions were then described. In the first, which he calls "A," ten cubic centimetres of the filtered urine are boiled for ten minutes with one cubic centimetre of strong hydrochloric acid. To five cubic centimetres of this mixture is added an equal volume of distilled water. This is allowed to cool, and the excess of acid is neutralized with four grammes of lead carbonate. It is now filtered, and to the filtrate are added two grammes of powdered sodium acetate and three-quarters of a gramme of phenylhydrazin hydrochlorate, and the resulting mixture is boiled. After cooling, a yellow deposit separates out, which consists microscopically of sheaves of crystals. It is, of course, necessary to remove previously any sugar which may be present at the start, and this may be done by fermentation. Albumen, too, if present, hinders the reaction, and should be got rid of. This reaction alone he found to be not absolutely trustworthy, since a positive result was obtained in diseases where active tissue change was progressing, *e.g.*, pneumonia. But he subsequently discovered a means of differentiating between crystals of pancreatic and those of non-pancreatic origin in reaction "A;" since if the urine is treated with a solution of perchloride of mercury, the formation of crystals of pancreatic origin is inhibited. Hence reaction "B." Twenty cubic centimetres of the filtered urine are mixed with ten cubic centimetres of a saturated solution of perchloride of mercury. This is filtered and the filtrate boiled with one cubic centimetre of strong hydrochloric acid. After cooling, it is nuetralized with four grammes of lead carbonate, and the rest of the reaction is carried out as in reaction "A." According to Dr. Cammidge, the nature of the disease affecting the pancreas may be inferred according to the length of time necessary for complete solution of the crystals in a 33 per cent. solution of sulphuric acid. This is obtained by observing their behaviour under the microscope. In acute pancreatitis solution occurs in from thirty to forty-five seconds; in chronic pancreatitis it takes from half a minute to two minutes, and in malignant disease of the pancreas from three to five minutes. Further than this, he summarizes his results as follows: (1) If no crystals are found by either the "A" of "B" method the pancreas is not diseased. (2) If crystals are obtained by the "A" method, but not by the "B," the pancreas is inflamed, and surgical interference is indicated. The actual state of inflammation (whether acute or chronic) can be determined by the time required for the solution of the crystals in sulphuric acid, as explained above. (3) If crystals are formed by both methods there may be (*a*) malignant disease of the pancreas, when the crystals will dissolve in from three to five minutes; or (*b*) some disease not connected with the pancreas, when the crystals will dissolve in about one minute. More recently (1906) Dr. Cammidge has described an improved method of performing the reaction. It differs from the original chiefly in the fact that the large amount of glycuronic acid present in the urine in most cases of pancreatic disease is removed by treatment with basic lead acetate, thus allowing a sugar which appears to be constantly obtainable in inflammatory conditions to be more readily recognized. Several workers have recently tested a number of cases with this reaction, but their results do not appear to be uniform, and the method has been subjected to criticism; but in view of the statement of Mr. Mayo Robinson, "The test is certainly of great help in diagnosis," it assuredly deserves an extended trial.—*The Hospital.*

IMPROVEMENT IN COMPOSITION OF BLOOD UNDER INFLUENCE OF LUNG SUCTION MASK, AND RELATION TO MOUNTAIN CLIMATE.

KUHN, assistant at von Leyden's clinic (*Munchener medizinische Wochenschrift., Jour. A. M. A.*), calls attention to the advantage of a method of inducing passive hyperemia in the lungs by restricting the intake of air while allowing ample outlet. The mask is of light celluloid and an adjustable valve shuts off some of the air entering through the mask. The lungs thus receive less than their usual quota, while the unhindered expiration induces a degree of negative pressure, the effect being similar to that obtained with the Bier suction hyperemia therapy. The effect is also analogous to the conditions of respiration at high altitudes where the lungs do not obtain their usual quota of air owing to the rarefaction of the atmosphere. He has found the application of the "lung suction mask" an important aid in treatment of pulmonary tuberculosis, the hyperemia induced in the lungs having a marked therapeutic action and promoting healing of the tuberculous process. The benefit is remarkable, he asserts, not only on the local process, but also on the general health and especially on the composition of the blood. He cites a number of tracings to show the invariable increase in the number of both red and white corpuscles and proportion of hemoglobin observed after every application of the mask. This improvement in the condition of the blood becomes more and more marked and continuous—exactly as observed in a trip to the mountains. The improvement in the blood occurred regularly in all but two patients, and one of these was found to be suffering from intestinal hemorrhage and the other from exceptionally protracted and profuse menses. He has found the mask useful also in treatment of anemia in case the bone marrow is still capable of responding to stimulation. When the blood does not improve under the suction mask, the anemia is evidently of complicated and serious origin. He applies the mask for an hour or two every day. The suction draws more blood to the lungs and promotes also the circulation of lymph through the parts—all factors favoring healing.

INSUFFICIENCY OF THE VERTEBRAE.

Under this heading Schanz (*Berliner klinische Wochenschrift, Jour. A. M. A.*) describes an affection of the spine in which the patients complain generally of stomach or bowel trouble, dyspepsia and constipation, loss of appetite and pains in the stomach, chest or pelvis. Usually no spontaneous mention is made of pains in the spine, but tapping the spine caused pain at one or more points and pressure on the lumbar vertebræ through the abdomen also elicits pain. On continuing the pressure until the pulse in the aorta is arrested, the pain becomes intense, but ceases at once when the spine and aorta are released from pressure. Tenderness will sometimes be found in the ribs and pelvis corresponding to the sensory nerves emerging from the painful sections of the spine. On the other hand, no findings except the above can be detected that suggest a pathologic process except that the patients do not hold themselves so as they used to, and one shoulder or hip may trifle higher than the other. Physical or effort and emotions aggravate the condition, it is improved by repose. As a rule it will found that the first disturbances were noted ing a period of depressed vitality, after a long ness, trauma or anemia. His patients were between 20 and 45, but the affection is by means restricted to this age. He points out close analogy with the disturbances in that and states that since he has been treating it the same lines as the latter, he has succeeded curing all his patients. None was cured so as he limited his treatment to rest and a supp ing corset, but the affection yielded in time these measures were supplemented by mas and exercises.

CHRONIC RHEUMATIC INFILTRATES MUSCLES.

Lorenzen (*Hospital alstidende, Jour. A. A.*) calls attention to the frequency and var of symptoms induced by chronic rheumatic mus cular affections, especially old infiltration. thinks that the clothing is responsible for the to some extent; the weak point in men's cloth the exposure of the parts between the vest trousers, probably contributes to the predomin of muscular affections in this region in men, in women the neck and shoulders are more quently affected. Infiltration of a muscle is to cause a number of disturbances, which he views in turn, including, he asserts, flat foot. diagnosis depends mainly on the palpation in the affected muscle and adjoining conne tissue, seeking also for signs of perineuritis, is particularly liable to occur along the sciatic cranial nerves. Incipient sarcoma may sim infiltration, and varicose veins may be mistak for infiltration in the connective tissue, and quently accompany the latter. Differentiation difficult when the infiltration is in the rectus oblique abdominal muscles. Treatment should with general antirheumatic measures, supp mented by local massage or systematic exe of the muscles involved with mechanical ap ances.

TREATMENT OF DYSMENORRHEA BY WAY OF MAMMÆ.

Polano (*Münchener medizinische Woch schrift, Jour. A. M. A.*) refers to the antagonist physiologic action of ovaries and mammæ. Wh the former are doing extra work the latter resting, as we see in pregnancy and parturition. Menstruation can be regarded as a process start by biologic forces in the ovaries, and its intensity, he thinks, can be regulated by measures depressing these biologic ovarian forces. The physiologic work of an organ is dependent on its blood supply, and artificially inducd hyperemia is thus a simple means to stimulate it to extra functioning. He has treated a number of patients with dysmenorrhea by applying these principles, seeking to reduce the work of the ovaries by stimulating the mammary glands with suction hyperemia. The results have surpassed his expectation in a number of cases which showed no benefit under other treatment. A few days before the menstrual period a suction glass is applied to each breast as for treatment of mastitis. Air is aspirated with a syringe until the breast is drawn out, stopping short of the slightest pain. The glass is left in place for half an hour, removing and replacing it once during this time. The procedure is repeated daily and continued till the last day of the period. The hyperemia of the breast persists for some hours; the period is shortened and the flow of blood lessened while the intervals are lengthened. The influence was apparent in every case in which the treatment was applied, but varied in intensity. One of the patients thus restored to physiologic conditions was a girl of 18, whose menses, extremely profuse, recurred every two weeks and lasted for eight days. Polano has also found the suction hyperemia an important aid in restoring lactation in wet nurses when the mammary glands seemed to give out.

ELECTROLYSIS AND THE NERVOUS SYSTEM.

In discussing the efficiency of electricity in combatting the general wear and tear of the system resulting from both physical and mental strain, Sir Jas. A. Grant, *Med. Rec.*, says that blood can actually be made by electricity, by stimulating through the abdominal walls the ganglia that take part in the process of blood formation.

In no part of the human system are the irregularities of life more marked than in the alimentary canal, where the defenses of the organism permit the ingress of bacterial toxines. In this tract the blood making process becomes interrupted through the non-elimination of normal nerve power. Under such circumstances the perfectly stable nervous system is a rarity. Here particularly electrolysis becomes an important factor, giving new life and activity by establishing beyond doubt an average neuropsychic equilibrium.

So also in intestinal trouble, the gas generated in the dilated colon, the outcome of imperfect assimilation, reflects a poisonous influence on the alimentary ganglia of the nervous system. About this attractive region takes place the mysterious conversion of vegetable and other food products into the blood. The nervous system plays an important part in this remarkable chemical transformation, histogenetic in character. This entire process is subject to defeat by surrounding abnormal conditions. A gradually debilitated state of the system frequently follows, marked by moderate œdema of the extremities entirely outside of cardiac, hepatic, or renal complications. Under such circumstances the local application of electricity to the abdominal walls brings about gradually a decided change for the better, the result of restored energy to the ganglionic centers, marked by subsidence of the dilated colon and the gradual and complete disappearence of serosity in the legs, owing to increased activity of the absorbents.

INSANITY IN GREAT BRITAIN.

According to the annual report of the British Lunacy Commissioners, insanity is increasing to a considerable extent in that country. At the beginning of this year one out of every 282 persons in England and Wales was reported to be insane, whereas ten years ago the ratio of insane persons was only one to 314. From 1869 to 1906 the population of England and Wales increased 55½ per cent., while the insane increased 133 per cent. A significant fact brought to light by the report is the spread of senile dementia, which alone accounted for over 38 per cent. of last year's fresh lunacy cases. In this connection it is suggested that modern medical science is doing more for the body than the mind, so that the former is kept alive beyond the time at which the latter succumbs to the increased demands of the present mode of life.

TREATMENT OF ERYSIPELAS.

As an internal remedy quinine in 4 to 8-grain doses, according to the temperature, may be given three or four times daily, and the following may be used as a local application: Perchloride of mercury 1 grain, lanolin and vaselin, of each half an ounce.—*The Hospital.*

DIGESTIVE POWERS OF PINEAPPLE.

Enzyme, the active principle of the juice of the pineapple, possesses a remarkable digestive property. It is obtained by throwing salt into the juice, thus producing a precipitate. If corked it seems to lose its virtue. Placed on a raw piece of meat, the surface where the fruit touches will soon become gelatinous. A good-sized pineapple contains two pints of juice.

Without doubt it is the juice which does the good, not the flesh of the pineapple, but the property of the juice is so effective that the eating of the fruit itself can do no harm and may even be beneficial, inasmuch as it takes some of the strength of the juice to dissolve it, and so prevents the stomach suffering from too violent effects of the juice.—*Exchange.*

DIET.

SYDENHAM considers that more importance is to be attached to the desires and feelings of the patient, provided they are not excessive, than to doubtful and fallacious rules of medical art.

SYSTOLIC THRILL.

A THRILL is hardly ever produced in a sacculated aneurysm, says Dr. Hale White: and if you feel one which is, from its position, not caused by disease of the heart, it is almost certainly due to either a dilated arch of the aorta, pressure of a tumor on a vessel, or some communication between the aorta and the pulmonary artery.

MALIGNANT DISEASE OF THE LARYNX.

SIR FELIX SEMON says the one symptom which is invariably present in this disease is hoarseness. This may exist many months—in some cases for a year or more—***without a single other symptom supervening***. Therefore it is the duty of every general practitioner in a case of persistent hoarseness in a person of middle age, even without any other symptom whatever being present, to make a laryngoscopic examination.

DIET IN KIDNEY DISEASE.

ACCORDING to Dr. Cheadle it is not always wise in some cases of parenchymatous nephritis to restrict the patient to a diet of milk and farinaceous food. When the patient is much debilitated and anæmic half an ounce of raw meat juice twice a day is often most beneficial, provided the pulse is not of high tension and the excretion of urea is not less than two-thirds of the normal amount.

PRURITUS ANI.

IN a paper on the above subject in *The Practitioner* Mummery says examination of this tract should be very careful and thorough with finger, anal speculum, and bent probe. Not only the anal canal should be investigated, but also the rectum as high as the rectosigmoidal junction. Moisture of the anal surroundings, from rectal mucus, piles, polypi, fissures, fistulæ, prolapse of the rectum, or worms may be the cause of the itching. Catarrhal proctitis is also a common cause.

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by Franklin W. Barrows, M.D.

"ONLY A PAUPER."

Somewhere we have read of a nurse who graduated from a county hospital after a course in which all her patients were paupers and soon found herself practicing her profession in the homes of the most exclusive class. One day she was accosted by a dazzling light of snobdom in this wise:

"Wasn't you graduated from the ——— Co. Hospital?"

"Yes," replied the nurse.

"Well, then, what I want to know is, *where* was you trained to nurse ladies—and gents, too?"

Many of the poorest people are equally dense, and fail to realize that they are receiving as good care in their ward as the wealthy cases are getting in the private rooms. But anybody with common sense, and just a dash of culture added, will realize that the nurse in training cannot be a respecter of persons, or rather, that she will respect all persons equally, as patients in need of her care, whether they belong to one class or another. If she has those very necessary graces that constitute refinement, she will be refined in the pauper's ward no less than in the private home of the plutocrat. If she thinks of her charge as "only a pauper" the familiar phrase serves, not to make her negligent and heartless, but to remind her of the patient's great need, and to stimulate her to the most faithful service.

It is no wonder, then, that Mrs. Crane, seeing vividly the cruel neglect and the more cruel abuse of the helpless poor in many of our almshouses, turns to the trained nurse as the one worker in our modern society who is best adapted by training and sympathies to enforce an enlightened humanity in our dealings with the dependent poor. Mrs. Crane makes a strong and eloquent plea which we hope every nurse will read thoughtfully.

Many of our readers have seen some of Mrs. Crane's earlier articles on this movement, and have followed with interest the success that has attended her campaign in Michigan, and here and there in other States.

To those who are unfamiliar with her splendid reform movement, and who read her plea for the first time in this number of the Gazette, we would most especially commend her wisdom and her broad philanthropy. The wave that she has started is advancing in your direction and you will, probably soon, hear a demand in your own State, your own county, for some of the reforms that she is advocating so effectively. Be ready yourself to do your part in bringing about better conditions for the poorest and most neglected of your poor.

THE ALBANY GUILD.

In the September Gazette we alluded to the excellent aims of the Albany Guild for the Care of the Sick and promised our readers a more complete exposition of its work. This we are able to give on another page through the kindness of Miss Winn.

Her article is worthy of careful study because it presents a simple plan, adapted to small communities as well as large, and meeting in the most acceptable manner the urgent necessities of that large class, rapidly growing larger, whose means are limited, but who have enough to keep them above the plane of the absolutely dependent classes. These are the people, of all others, who know how to thoroughly appreciate good services when they can get them.

WHY NOT R. N.?

In all the army of registered nurses that has come into the field since State registration began is it not strange that so few exhibit the legalized symbols—the outward sign of an inward state, so to speak—R. N.?

Why not R. N.? You have prayed for it—to your representatives—fought for it, and now it is yours. It means something. It has power to enhance the value of your service, perhaps. Why not use it then?

Why do we not have lists of registered nurses accessible to every agency, every physician, every employer of nurses? Would not your R. N. be of more service to you if your name were enrolled where any one might find it, as an evidence of your good faith?

R. N. costs something. Let us make it pay for itself.

THE SPREADING OF TUBERCULOSIS BY "LIGHT WORK."

Ellen N. La Motte, a visiting nurse of Baltimore, has made a most thorough study of 915 families in which tuberculosis is harbored, and finds in more than one-third of them some form of home industry—light work—regularly carried on. Her clear report of this study, in a recent number of *Charities and the Commons,* demands the attention of every one who is interested in the campaign against tuberculosis, and appeals with special force to the visiting nurse, to whom such conditions as she describes are more or less well known. One cannot read her article without surprise that this dread disease is not even more prevalent than now.

Twenty-five different occupations were represented in these 327 tuberculous families. The author rightly concludes that "we shall always have tuberculosis among us" if such industrial conditions are tolerated.

THE PART OF THE TRAINED NURSE IN ALMSHOUSE REFORM.

(*Address before the Indiana State Nurses' Association, Indianapolis, September* 10, 1907.)

By Caroline Bartlette Crane,

Kalamazoo, Michigan.

It is a pleasure to be with you to-day. Indiana has been the home of famous authors, dramatists, statesmen, as well as many charity workers well known in the United States. Among them I shall mention Alexander Johnson, Oscar McCulloch, Ernest Bicknell, who is now at the head of the Charity Organization of Chicago.

I was not born in Indiana but my mother was, and if you will graciously pardon the deficiency I shall talk to you on "The Part of the Trained Nurse in Almshouse Reform." Your profession, born of the desire in good women's hearts to effectually minister to the sick poor, still gives proof that this initial impulse is by no means spent. Still it is true, as in the days of Florence Nightingale, Agnes Jones and Amy Dutton, that many women choose the profession of nursing not primarily because of its financial returns, but because the work of alleviating human misery is to them the most attractive work in the world. And there are many to whom sickness, when associated with destitution, makes the compelling call.

Hence I appeal with confidence to your association in behalf of the suffering and neglected sick in the county almshouses of your State. I shall hope to show to you another great field of work lying side by side that of the visiting nurse; to make you hear a call more insistent, more piteous, more tragic; that you may set your hearts of compassion and your brains and hands of trained service toward these friendless sick poor whom society segregates and—forgets.

What I shall have to say to-day is unfortunately true of almost all the smaller almshouses of our country. The State of

Massachusetts offers notable exceptions, and in New York good progress is being made toward bringing the small county almshouses up to something near the standard of the large city or State institution for care of the homeless poor.

In a few other States there is some progress, but I believe I am speaking in strict truth of at least ninety per cent. of the county almshouses when I say that the sick inmates are inexcusably neglected; that there is an appalling amount of preventable suffering; that contagion runs riot; that many persons die who, with proper medical care and nursing, might recover; that many more are permanently invalided and made county charges for life who might have been cured and returned to the rank of self-supporting citizens.

To better appreciate the situation in our almshouses to-day, let us glance back to that time, fifty years ago, when Dorothea Lynde Dix was going about preaching and working deliverance to the captive insane in our poorhouses and jails; the most wonderful, the most brilliant, the most Christlike achievement of philanthropy, as it seems to me, ever wrought by any one person in any age. Dorothea Dix, supported by the more intelligent alienists of America, revolutionized the treatment of the indigent insane all over America and well nigh over the civilized world. She was the founder of twenty great State asylums for the scientific and humane care and cure of the indigent insane who formerly were hidden away in the jails and poorhouses; many of them in cellars, in closets, in outhouses, in stone caverns, without fire in winter, without the most elementary provision for decency, manacled and chained and treated in all respects precisely as if they had been wild beasts. But—and this is the point of my reference to Dorothea Dix—see how naturally her appeal for State rather than local care for the insane was followed by a general movement for State care of other classes of almshouse inmates.

For you must know that, within the lifetime of some here present, the almshouses of this country were not alone the one refuge of the indigent aged and infirm; they were the dumping ground of all sorts and conditions of humanity—the destitute insane, the blind, dumb, epileptic, idiots, and—destitute children! Even wayward children and adults, who committed minor offenses against the law were sometimes sentenced to the almshouses. All the human flotsam and jetsam which could not take care of itself, counted by prosperous persons as troublesome and nothing worth, all the people we did not like to see around, we used to shut up together in the poorhouse and confide to the care of hired keepers, and think no more about them!

Ah, when the pessimist tells you the world is growing worse instead of better, point him to Dorothea Dix and to the faithful unremitting labors of those who, in her spirit, have served to lift one class after another out of this desert of neglect and slough of vice and misery. Show him all our public institutions for the humane and scientific care and cure of the insane; our schools for the blind, the deaf, the feebleminded and the epileptic; our State public schools for dependent children; our houses of correction for adults; and say to the pessimist: This is what our states are doing for their helpless and unfortunate ones, and for insubordinates. True we have not yet room for all; it takes time; it takes patient effort to get the necessary public appropriations, but this is what we are doing as fast as we can do it! And of all that motley assemblage of human beings who were once carelessly consigned to oblivion in the county poorhouse, presently none will be left except—the aged and infirm! The aged and infirm poor! Add to that phrase two adjectives: Homeless, friendless, poor old men and women; these are and will become more and more—the great mass of our almshouse population. All the other classes of inmates are being removed to be treated not on the basis of their destitution but on the basis of their needs. The insane destitute person is no longer treated as destitute but as insane, the State assuming his care. We do not now hear the term "pauper insane" in connection with our asylums. The blind destitute person, child or adult, is treated not as destitute but as blind, and made a ward of the State. And so with the deaf, the feebleminded, the curable consumptive, and dependent children; each is treated not on the basis of his destitution, but on the basis of his special need.

And I ask, is it right that our aged and infirm should be solely excluded from the benefits of this humane movement, still to be treated not on the basis of their needs as aged and infirm persons, but merely on the basis of their dependency? If a blind poor child has the same basic needs as any other blind child, and if it is right that society should supply these needs, how is it that a sick poor person shall not have those fundamental requirements as to care and nursing which are indispensable in the case of other sick persons? Of all the classes and kinds of destitute and vicious who were once promiscuously consigned to the poorhouse, these, the aged and infirm, remain as the irreducible minimum, the irremovable residue, of the poorhouse population. And hence they remain the pitiful victims of an antiquated theory about poorhouses, which is, that paupers should be thankful for anything they get —a variety of that popular maxim that "beggars mustn't be choosers"—and that, besides, the almshouse must be made as unattractive as possible to keep people from flocking thither to live at the public charge. The effect of this theory—only too consistently acted upon—is that the respectable poor suffer vicariously for the people who are supposed to be kept away, and that the thought of going to the poorhouse stirs in them an over-weening terror; that they go only as the last resort, often conducted by force, and literally "weeping" as "over the hills to the poorhouse they take their weary way." They go there to spend the remainder of their earthly days; feeble at first, to grow more feeble through advancing age, lack of employment and any interesting event; they sit day after day looking at blank, cheerless walls and blank, cheerless faces and a blank, cheerless future. Here the fertile field of senile decay of body, mind and spirit; the elect abode of a cheerless, comfortless, hopeless, suffering old age. Some day the old man or woman takes to bed. It may be a clean and fairly comfortable bed in a decent room. Then again it may be a very hard and filthy bed in a cellar. It is called a "basement," but being five feet under ground, you and I would never know it from a cellar. And all this will depend, not on the public vigilance that this and that shall be thus and so; the public has no knowledge or care about it unless there happens that rare event, an almshouse expose. It will depend mainly upon the kind of keeper and matron hired by the kind of superintendents of the county poor, named by the kind of supervisors we elect. And as long as we elect our supervisors, not with reference to their fitness to supervise, but with reference to their position on the tariff and the policy in the Philippines; and so long as they appoint their subordinates on the same general plan, the almshouse poor may consider themselves fortunate indeed if this system secures the right man and woman to preside over their humble fate.

I need not trace the wretched ebbing life day by day, month by month, year by year, as so often it is dragged out; "as if," to quote another, "Nature hates to make a grave unless she knows it will be watered and kept green by tears." You as nurses know only too well what must happen, even when the keeper and matron do their utmost, as in the majority of cases I believe they do. But they are not nurses, and they have abundant duties beside the care of the sick. Consider how much of the bedside service must be left to feeble, stupid or vicious inmates; how appetite disappears with the lack of any attention paid to the sick diet; how bedsores come, and stay; how long nights drag on, with the keeper and matron and servants locked in their apartments a thousand miles away!

It was but a few weeks ago that, in a poorhouse, an inmate arose in the night and murdered a sick man who had disturbed his sleep with cries for water. There are many deaths in the night. Is it strange if once in a while in the dark night, alone, there should be done a murder by some exasperated man upon one whose life society holds of such infinitesimal worth?

And when release at last comes in death, if the departed has any friend on earth to claim him, there will be a funeral service. If not then those terrible words of Noel's, which we think of as pertaining to the long past, are too often literally true of to-day:

"Rattle his bones over the stones;
He's only a pauper whom nobody owns."

Who dare think of the cruelty to the living, the murder of their self-respect, involved in their witnessing this unceremonious disposition of the body of a comrade, without a prayer or any office of religion, and knowing a like fate awaits themselves. I think if this thing were generally known, and if it were also known that very few almshouse inmates enjoy the privilege of Sunday religious meetings it would rouse the public conscience in revolt even when the lack of provision for comfort to the sick fails to do so.

There is much more to be said of almshouse miseries. In enumerating the many classes formerly consigned to the county almshouse, but now cared for in State institutions, I said there was not yet room or money enough to take care of all. To-day in almost every county almshouse there are to be found some or all of the following classes represented: Epileptics, crippled children, for whom many states make no other provision; adult blind persons; children and young persons destined for the state juvenile institutions, whose diseased condition forbids entrance to these places. And they are sent to the poorhouse, where is neither hospital, resident physician or nurse, to be cured! Then there are little children placed there temporarily while a home is being sought for them; and often this temporary residence stretches out to many months. Add to these the homeless girls who, becoming county charges, are sent to the poorhouse to give birth to nameless babes; the convalescents taken from the expensive hospital to the cheaper poorhouse to complete their recovery, if they can; the chronic or hopeless cases of consumption, cancer, paralysis, locomotor ataxia, syphilis, ophthalmia, and so forth, that are sent to the almshouse, not because they are aged and infirm, but simply and solely because they are abjectly sick—yet sent to a place planned apparently by a Christian Scientist in whose bright lexicon no such word as sickness exists; and you may have some proper idea of the need of trained nursing in these almshouses of ours.

The simple truth is, that the county almshouse is a hospital with the hospital left out! Babes, born friendless into the world, disowned by father, abandoned at birth by mother, contract gonorrhœal conjunctivitis and are blind for life, because nobody rightly knew the danger nor how to cope with it. Where medical attendance is seldom oftener than once a week, and where there is no one with either training or leisure to carefully follow out the doctor's directions, it is a small wonder if such things happen. Tubercular patients innocently scatter infection at will. Victims of ophthalmia use the family towel; and seldom indeed is a pair of rubber gloves to be found on the premises. Said the matron of one of the largest institutions in our State: "No, we don't need rubber gloves, because I make the inmates do all that sort of work." "But will they not get the infection?" I asked. "Oh, you needn't worry about them," she answered, comfortably. "Besides," she added, "I give them bichloride tablets to use." This matron, it developed soon afterwards, was given to binding and beating feebleminded women, and shutting up troublesome old men in a room alone to die. And she had requested a surgeon to see to it that a certain patient, who, she said, "was no good to himself or anybody else," did not come out from under the influence of the anæsthetic. The functions of nurse were bound up with those of matron in the person of this woman. Probably her husband, the keeper, was correct on the tariff!

I have endeavored to portray to you the present almshouse situation: The great number of infirm and sick; the admixture of other classes such as epileptics, crippled children, and other sick children, and of well children who in such a place need to be most zealously guarded from sickness; the total lack of hospital provision; the lack of consideration as to the fitness in employing keeper and matron; the resulting lack of continuity and efficiency even when all concerned do their best; the total lack of public concern;—this is the situation, and it will remain the situation for a long time to come unless there is volunteer initiative toward improvement. Some day it will be different. Some day all these various classes, now but partly separated will be entirely lifted up into State guardianship. Some day every able-bodied vagrant will be sent to a workhouse, and the almshouse standard of comfort will no longer suffer because of him .

But by the time all these things have happened, let us hope that all county almshouses will be a thing of the past. In their stead will be the same buildings, perhaps, converted into local State hospitals under State management and control, with all politics eliminated.

We shall have in these local State hospitals, the scientific and humane care of the indigent aged and infirm, not on the basis of their accidental indigency but on the basis of their fundamental needs and rights as human beings.

We shall also have some proper classification of the aged and infirm. A group of, say, four almshouses in four adjacent counties will admit of something like this: in one, all the respectable aged couples (who at present have to be separated), and other decent and respectable aged people who have come to the almshouse through no special fault of their own, and whose enforced association with wornout tramps and prostitutes is one of the most cruel things about our present system. In a second house can be placed this latter class. We will suppose the persons in both of these houses to be, while feeble, comparatively well. In a third house can be placed those who are ill from ordinary diseases, either chronic or acute; while the fourth house might accommodate those suffering from diseases especially dangerous or offensive to others. The present admixture is a source of much suffering to both the sick and the well. The former are shunned and are often placed in remote parts of the house where the sights and smells, and the outcries of pain may not disturb the others. As a matron once explained to me the use of a room, vacant but for a single bed, in the top story: "You see, horrible old cases—both men and women—come here to die, and we couldn't endure them around the house; so we put them up here." The room was entirely bare but for the bed. There was no electric bell, nor other apparent means of summoning help. This is cruel, but the alternative of placing them in the dormitories or rooms of the other inmates is hardly less cruel to the latter. Some day all classes will be cared for according to their needs. The State will do it and forget that it was ever otherwise. But in the meantime, until the State will act, and until local prejudice and jealousy can be overcome, what can be done to help the situation as it exists to-day, and must exist, it is to be feared, for many years to come?

Well, how did we come by the visiting nurse, that angel of mercy in the homes of the sick poor? Did we, seeing the need, go and ask city councils and boards of supervisors for appropriations to pay for this work, and then go home and sit down in happy confidence till the appropriations were granted? No. Women's clubs and other women's organizations have raised the money and have thus made it possible for members of your profession—essentially, by the way, the woman's profession—to do this merciful work. But these sick persons have a home, however humble, and in the home are other members of the same family. There are neighbors on either side. There is power to summon help against inhuman treatment and neglect. And wherever there is a home, there is some inclusion of the things the heart hugs as dear—the little, loved possessions, one's right to one's own queer little ways; one's undisputed title to "Mr." and Mrs.;" not "Blind Joe" or "Maggie" or "Auntie." Ah, they are the little things! But are they little things after all? Have you, visiting nurses, found that the homes and ties of the poor are less to them than to us? The mission of the visiting nurse is indeed a blessed one in the homes of the sick poor. But shall we find the mission of the almshouse nurse less blessed among those who are in the almshouse only because they have no home, no friends, and no hope?

Being as I trust a practical person, I have a plan to propose for your consideration, a plan which involves close co-operation between your State association and the State federation of women's clubs, a plan which already is in successful operation in my own state of Michigan. We have a joint committee on Almshouse Reform, composed of committees appointed by the Michigan State Nurses' Association and the Michigan State Federation of Women's Clubs, and this is our plan which we are just getting into successful operation: The part of the joint committee that represents the State Federation of Clubs will select from time to time such counties as we believe to be either most in need of our work or likely to be most hospitable, towards it, and will there concentrate its efforts, aided by the women's clubs of that county, to induce the board of supervisors to install a trained nurse in the almshouse. In cases where the board of supervisors will not consent to the instalment of a nurse on account of the expense, the federation committee will endeavor to raise the funds for an experimental installation of a nurse, for a few months or a year, hoping that the unquestioned advantages of her services will be the best means of converting both supervisors and taxpayers to the extra cost. Wherever a nurse is to be installed, it will be the endeavor of the joint committee to secure an arrangement whereby the appointment and supervision of the nurse shall rest with the State Nurses' Association, through its committee which constitutes one-half of this joint committee. The nurses' committee will also, where permitted by the county authorities, make suggestions as to plans for building new houses or remodeling old ones to better supply the needs of the sick.

It is my conviction that this work must be inaugurated by private initiative and probably by means of unofficial support. The women's clubs will, I believe, undertake to provide the initiative and procure the financial support necessary for a trial of almshouse nursing. But you must provide the nurses, and it is best that you should (by means of a State committee) appoint them and supervise their work. The club women are not competent to do that, and the county supervisors are not competent to do it either. We want the best trained and most conscientious nurses to be had, nurses who will realize that the success of this effort will depend mainly on them. Time will not permit of my dwelling at length upon the opportunity which this plan opens to you. But it will mean many new positions where in the smaller almshouses each nurse is head nurse, and will experience a call upon her utmost resources of ability, training and character. At the same time, the variety of chronic cases—the cases in which the hospital training school is most deficient—will constitute a post-graduate opportunity of great value in fitting the nurse for private practice. I believe that arrangements can often be made with neighboring hospitals to send nurses in training for brief terms of service in the almshouse, to the great advantage of both institutions.

The salary for almshouse nursing will probably be equal to that of the visiting nurse, and the settled abode and the ability to control the environment of her patients is an advantage not likely to be disregarded by the profession.

Ladies, there is in every community a more or less clearly defined standard of living, below which no human being should be allowed to fall. Your profession is doing as much as any one great force to awaken public consciousness to lapses below this standard. Let me entreat your utmost influence, collectively and as individuals, for a more humane standard of living and dying, in that last refuge of the fallen and the unfortunate—the almshouse. Shall the hospital care which is granted to the sick murderer in our prisons be denied to the sick pauper in our almshouses?

Shall the pauper die in darkness and alone when the murderer goes to the gallows with his spiritual adviser at hand, and with due respect for "his last wish" and his "last word"? Truly it must seem to these unfortunates that the only crime unrelieved by a pulse of public pity is to be friendless and poor. Suppose they have been "to blame;" even so the day for reform is past. And if we but remember how much better we have fared in this world than strict justice would prescribe, it may serve to make us compassionate toward these pathetic victims of a misspent life, now so hopelessly at our mercy. But many of these poor people are just as good as you or I. It is misfortune, or, at worst, a lack of thrift, which has brought them to this extremity, after lives of decency, sometimes even of refinement, and of consideration in the community in which they lived.

But, good or bad, our almshouses are no longer penal institutions, and we have no business to be talking of deserts, but only to see to it that in our capacity as guardians we comport ourselves as civilized persons. If we have a sick dog, we either cleanse its sores and see to its needs, or we put it out of its misery. Our consciences rightly revolt at the latter alternative for any human being, however sick or miserable. How, then, can we escape the other alternative of rationally and humanely caring for these helpless charges upon society? Some day all these wrongs will be righted. Happy then will be the case of each man and woman, who, looking back, can truly say "I helped."

THE EDUCATION AND ETHICS OF THE PROFESSIONAL NURSE.*

By Frank B. Wynn, M.D.

Indianapolis, Ind.

The evolution of the profession of nursing is a natural outgrowth of the times, and represents one of the many phases of a progressive civilization. It is a product of specialism. Specialization in the factory, in commerce, and the various productive industries has placed limitless conveniences in the hands of mankind. The learned professions have been no exception to this law of specialism, notably medicine. Many conservative physicians hold the view that modern specialism has run mad, yet all thoughtful persons must admit that to it are due the greatest achievements of modern medicine.

The profession of nursing is an outgrowth of modern progress; if you will, a special branch of medical science which has to do with the art of healing and preventing disease. When Pasteur and Koch proved to the world what had long been suspected, that many diseases were due to micro-organisms developing within the body, the next and the logical step was to develop the art of preventing these germs from entering the body. When it was demonstrated that erysipelas and the various forms of suppurative inflammation incident to operation or injury were the result of germ entrance, the necessity of constant and rigid supervision of cases arose. This meant the utmost attention to detail in preparation, sterilization, and management of cases. Just here the aid of the trained nurse became indispensable to success in surgical procedures.

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*Address before the Indiana State Nurses' Association at Indianapolis, September 10, 1907.

Again, it is at the bedside of the typhoid case, a germ disease, that we see her constant vigil, guarding the patient in delirium and protecting others from infection. Her careful attention to sanitary principles with the mother and her new-born babe protects the one against fever and the other against intestinal disorders—conditions formerly most prevalent and destructive of life, but now much less frequently encountered.

It is, indeed, a vast stride from "Sairy Gamp," who was the typhoid nurse of Dickens' time, to the present type, whom you represent. From the menial position of the nurse in former days, your vocation has now attained to the dignity of a profession,—honorable, remunerative and altogether worthy of admiration. From Florence Nightingale, the patron saint of your profession, up to the great present day achievements of your calling there is so much to commend and admire that praise is apt to obscure the weak points of your profession and its future possibilities.

A close analysis of the question suggests some friendly criticism. Certainly it will not be claimed that your profession has attained perfection. There are still Sairy Gamps in the land. Your influence, although powerful for good, does not extend to all classes. Your work is largely among the well-to-do except during the period of your training. In what directions may you continue to progress, and how may the sphere of your influence be enlarged?

First, in the work of the training school, it has seemed to me that while proper stress has been laid upon technique in the art of nursing, the scientific knowledge forming the basis for practical work has not been sufficiently emphasized. Nurses are taught with unceasing care how to prepare for an operation; the bath; cleansing, shaving and disinfection of parts; sterilization of instruments, sponges, towels; wearing of sterilized clothing, cleaning and disinfection of the hands, and an endless variety of other essential details. Such is the technique or handicraft of your profession. This is all gone through in a routine manner, oftentimes I fear without full realization of its necessity and importance. A better knowledge of the science which affords the reason for doing all this would impress upon the nurse the imperative necessity of asepsis.

I would have her contemplate the observation we all have made. Note the sunbeam as it enters your darkened room through a tiny hole in the window shade. Observe the illuminated cone, with its ten thousand dust particles swaying in every direction. Blow your breath gently and see them surge in a whirlwind of commotion. Tap the carpet beneath the cone and see them augmented a thousand-fold. Even this crude scientific observation proves the folly of operating in such environments. What would you think of having one of your own vital organs exposed by operation in such an atmosphere, with thousands of dust particles settling upon the open field of operation each second? You are prepared to understand why the carpets, hangings, upholstery, furniture should be removed from the operating room, the floor and the woodwork and walls cleaned.

But this is merely the A, B, C of your scientific study. You should learn by laboratory investigation what dust is. It consists chiefly of microscopic particles of lifeless matter; but always contains living germs. Prove this by simple experiments. Place petri dishes containing agar-agar upon the floor of your room for a few minutes, or draw the apparently clean finger tip across the surface of a culture medium, or permit a fly to walk over it. Incubate these culture plates for a few hours in an oven, and there will be seen numerous colonies of bacteria growing; mostly harmless to man, but some may be disease producing. A step farther,—let the nurse make plantings upon culture media from infected wounds, from the throat in diphtheria, etc., afterwards studying them with a microscope. I would have her likewise inject guinea pigs with the sputum of tuberculosis cases, noting later on the development of the disease in the animal. It is only thus, by being well trained in practical bacteriology, that the nurse will fully appreciate the relationship of germs to disease.

A knowledge of the science of bacteriology brings home to her with great force the necessity of asepsis in surgery. A knowledge of the science will make her more painstaking and faithful in the art of nursing. In the operating room she will shrink instinctively from touching any unsterilized object. The instrument that has fallen upon the floor or touched unsterilized clothing, she will not return to the surgeon's hand, realizing that this seemingly trifling error might lead to fatal infection of the patient. The beads of sweat upon the surgeon's face, she will wipe off with anxious care, lest they fall into the field of operation, bearing infection.

The nurse so grounded in practical bacteriology would never, for her own safety or that of others, permit a patient suffering from tuberculosis to spit upon the floor, or into a handkerchief which is tucked under the pillow to be drawn out again and again each time pulverizing and disseminating the dried sputum to infect others and re-infect himself.

To repeat, let the nurse have thorough scientific training, for upon this foundation only can she build safely the superstructure which is the art of nursing. And so I believe that not in the field of bacteriology alone, but in the various fundamental scientific branches of medicine, a more efficient training will be required in the future. At any rate, my belief is that a little more attention should be given to this, and a little less to the dosage and action of remedies, which belongs more properly in the field of the physician rather than the nurse.

Another advancement in the training of nurses, certain to come in the near future, is a higher standard of general education as a preliminary requirement. Fortunate, indeed, is the nurse who possesses natural gifts; tact in the dealing with the foibles of erring human nature; gentleness; a cheery disposition and kind heart, a patient and tender nature. These may be appreciated by the grateful patient more than the elaborate technique of sick-room management. These are the character building virtues. They may be partly nature's gifts; but they arise more from the faithful pursuit of your noble calling. They go to form the most important quality of life—character. The training of the hand and heart is all important; but in order to insure a maximum efficiency let there also be a trained intellect; trained not merely in the narrow professional sense, rather, a broad educational culture. Such will insure self-poise, self-reliance, the ability to grasp and solve difficult problems.

Thrice fortunate, therefore, is the nurse who adds to her professional training a collegiate course. Few have enjoyed such privileges, but this need not exclude literary culture. In fact, the life of a nurse affords both the opportunity and the stimulus to culture improvement. There are days of waiting between cases, and tedious periods during convalescence, when good books will vary the monotony and enrich the mind. Reading clubs, with literary as well as professional programs, should constitute part of the work of nurses' organizations.

The work of the nurse brings her in contact with all classes and conditions of humankind. She witnesses the dawn and sunset of life; she sees life in shadow, in storm, and in wreck. What pathos, what humor, what sentiment has not been aroused to the utmost within her? What vocation is more replete with the experiences which stimulate sentiment and fancy? If Dickens could but look through your eyes how interestingly he would write; or if Riley could but have your opportunities what beautiful stories of pathos would be added to our literature! And, why not you? In the richness of time, poets and story-writers will be born from your ranks.

Such self-culture as has been suggested will help you practically. Many of those whom you are called to serve are educated and cultured people. In nursing among this class, if you add to the efficient performance of your professional duties a cultivated mind, your influence is increased and the respect and esteem of those you serve will be assured.

A field of medicine calling for the very highest type of nursing has been, it seems to me, too much neglected by your profession. I refer to patients suffering from mental maladies and such nervous disorders as hysteria, and hystero-neurasthenia. What infinite tact and patience are demanded to successfully contend with the whims and caprices of these patients! Through psychic influence to breathe into them, as it were, a soothing and healing influence; to have the mental virility and training, the wisdom and character to wisely direct and control their actions; to be at the same time firm, masterful, and kind—these qualifications will enable the acme of achievement in the care of such cases.

To the introspective and despondent neurasthenic, the ideal physician brings a smile and encouraging word which momentarily dispels the gloom of the sick chamber. Let the nurse be perpetual sunshine there. Not only the ventilation of the sick-room but a wholesome mental atmosphere is indispensable to the cure of these cases. You must have not alone the hands and heart, but the head to lead them. Here it is that higher educational training and culture will stand you in hand in the proper management of these unfortunate and difficult cases. These patients represent a large class among well-to-do and intelligent people. Nurses fail in the management of such cases, more frequently than with any other. The fault is not so much theirs as in their defective training. There is a real demand for nurses expert in the care of this class of cases. They should, in my judgment, receive wages in excess of those ordinarily paid. The training schools of the future should see to it that painstaking attention is given to the preparation of nurses for this line of work.

It is true, I believe, that in some of the State hospitals for insane, training schools have been instituted. I fear the work has been conducted in rather a perfunctory fashion, and not with the thoroughness which characterizes training schools in general hospitals. At any rate, there has not been supplied for use in private nursing, the type of nurse described above and which physicians so frequently feel the need of.

The trained nurse is not only chiefly responsible to the physician, but she depends largely upon him for patronage. Naturally, therefore, nurses are anxious to please physicians by the excellence of the service rendered. It will be to your advantage to know that a physician will never be disposed to recommend a nurse much given to talking of the affairs of the sick-room. One of the unwritten laws handed down through physicians from the time of Hippocrates, is that many of the secrets of the sick-room shall remain inviolate. The common law forbids that we should divulge these in court, and the nurse certainly cannot be expected to do less than her superior in authority. Prudence, therefore, is demanded in both the action and the spoken word of the nurse.

A quality much to be admired in a nurse is a genius for labor. The nurse who uncomplainingly accepts the case presented and conducts her work faithfully and successfully, despite great difficulties, is the one the doctor is always anxious to secure. I regret to state that I have frequently had nurses invited to take charge of cases who, before accepting, were disposed to make critical inquiry as to the nature of the case. If it were found to be a trying and difficult one some excuse was manufactured in apology for not accepting. The nurse who is always hunting for an "easy snap" in her work is very apt, sooner or later, to lose caste with physicians. She has no greater moral right to refuse a case because a difficult one, than a doctor has to decline taking a severe case of typhoid fever because the patient is likely to die on his hands.

The chief glory of the medical profession from the days of "the father of medicine" to the present, has been the unselfish spirit and high ethical principles which characterize true physicians. What physician has not given, without money and without price, to the poor his best skill, and found in the gratitude of the unfortunate a reward more precious than the gold of the rich. But what bearing, you ask, has this upon the profession of nursing? Let us make the application.

You have become our sisters in the profession of medicine. If you would share with us its honors and glories then you should be willing at times to give labor unrecompensed, save the reward of an approving conscience. What are the facts? A nurse graduates, and now her services are available for $20 per week. Trained nurses, therefore, are a luxury enjoyed by the sick well-to-do. The poor dare not indulge in the extravagance of a trained nurse. But, you say, does not the doctor charge for his professional services? True! Yet, what physician does not again and again render professional services to the sick poor without thought of an entry upon daybook or ledger? Although such service may receive no financial return, it is not without recompense.

I would not be understood as advocating that trained nurses should give more than a fraction of service to charity. It need not, in the long run, detract in the least from the total income. Every city of considerable size has a number of trained nurses. They are bound together in organizations for mutual protection and promotion of their interests. Every nurse is occasionally idle, awaiting a call to a case. Why should there not be instituted by every nurses' organization a plan that each member, during idle periods, should give an hour or more daily to the educational instruction of the sick poor upon matters pertaining to the prevention and management of disease, and concerning hygienic and sanitary subjects? The work might be carried on in conjunction with charity organizations.

Take alone the tuberculosis problem—the greatest sanitary and economic question of the day. In 1904, 4978 died of tuberculosis in Indiana, an average of one death every two hours. In the United States in the same period, 152,000 died of the dread malady, an average of one death every three and one-half minutes. Or, note the ticking of the clock, and when it has tolled ten, another from the tubercular hosts of the civilized world has entered the Beyond. Turning from the mortality aspect of the disease to its prevalence, a conservative estimate places the number of cases of tuberculosis at one in sixty of the population. This would give, for the United States, 1,250,000; for Indiana, 41,000; for Indianapolis, 3,300.

For ages past, this insidious foe has been working havoc among mankind ten-fold more terrible than war, pestilence and famine. Yet, it is a preventable and curable disease. The conscience of the medical world is aroused upon this question, and on every hand is agitation looking to a betterment of condition. The question is, how may the laity, especially the less intelligent class, be brought to realize that the sputum of the consumptive is the infectious principle, and must be destroyed if we would prevent the spread of the disease? It is especially to the ignorant poor that this fact must be brought home, for it is in the cramped and unsanitary habitations of the lowly that parents infect their children, and the children each other. A study of the tuberculosis problem in cities will convince anyone that it is becoming more and more a poor man's disease. How, then, shall the tuberculous poor be convinced that their prejudice against fresh air is groundless; that on the contrary the open-air life and sunshine are indispensable requisites to cure? All intelligent and progressive physicians preach this gospel, but how inadequate their efforts to the task in hand! They may advise, and plan, and outline the management, but the difficulty is to overcome prejudices and secure the faithful execution of their orders. Regular disciplinary supervision in such cases is absolutely necessary to secure success in treatment. There must be rigid observance of rules for sputum destruction; the open-air life must be adhered to, despite temperature variations and changes in weather. Enforced nourishment in the shape of milk, eggs and meat, is necessary.

A rigid carrying out of such regime can only be attained under the supervision of a properly trained nurse.

What a magnificent field is here offered to the trained nurse for practical educational work and real charitable service! I am glad to be able to say that service of this character is rendered the poor by trained nurses in Chicago, Philadelphia and Boston. Training schools for nurses should see to it that their pupils receive careful instruction and proper training upon this subject. I would have you participate in such a public service, if only in a small way. In the first place, because it needs to be done, and no one can do it so beautifully as you. Secondly, because the consciousness of rendering a valuable public service and adding to the comfort and happiness of the unfortunate poor will enrich your lives and merit the plaudit, "Well done!"

Children fed for any length of time on pasteurized milk, if they do not have scurvy or rickets, at least look very anæmic.—Dr. Joseph Roby, in *N. Y. Med. Jour.*

A **man** must become wise at his own expense.—Montaigne.

THE ALBANY GUILD FOR THE CARE OF THE SICK—LIMITED MEANS DEPARTMENT.

By Miss Pearl C. Winn,

Albany, N. Y.

It was out of its own need that the Albany Guild arranged its nursing to reach the people of limited means, and its development along this line has been gradual. In 1896, at the request of physicians, the Guild first sent its visiting nurses to those who could pay a small fee. The district nurses found, as do all working among the poor and middle classes, that there are cases where the daily visiting of the nurse cannot meet the needs of the family. In critical cases where there is no one able or competent to care for the patient, it becomes necessary to have in attendance some person who can, at least, accurately report the condition of the patient. It was partially to provide for this extremity that a year later the Guild first engaged a few women, who were to be employed only by the Guild and were to be sent to stay with patients under the direction and supervision of the hospital graduate visiting nurse, who was to give instructions in practical nursing, herself giving treatments which were beyond the skill of the assistant. This assistant nurse received a stated amount for each of her working days, the head nurse using her discretion in the charges made to the patient.

This was very well for a beginning, and those receiving their experience in that way have made good domestic nurses. But as the work continued to grow it became possible to take these women on monthly salary and keep them busy all of the time, and we then began class work, giving practical and theoretical instructions by the assistance of text books on Anatomy, Physiology and Nursing, and through the kind co-operation of physicians in town have been able to provide for them an excellent course of lectures which extend through the period of two years during which they are in training. These lectures are given weekly, notes taken by a stenographer, and the lectures type-written for home study, making it possible for the nurse to give her whole attention to the address of the lecturer. These lectures are later reviewed by the head nurse with the pupils and examinations given on each subject. The value of this study is increased by a thorough course in cooking under the charge of the diet kitchen staff.

For practical work the assistant nurses are taken, one at a time, with a hospital graduate visiting nurse on her rounds, are instructed in all details of the work, and under the watchful eye of the graduate nurse are allowed to give such care and treatment to the patient as they may be able to accomplish intelligently. The range of the work of the assistant gradually increases, and when it is safe to allow her to do so, she is permitted to make some visits alone, the hospital graduate nurse who is in charge of the case visiting later in the day to be assured that all is right. She has practical experience in minor surgery at a city dispensary, where the nursing is in charge of the Albany Guild District Nurses.

During her training the assistant is sent to stay with patients in their own homes, there learning to care for the sick in his own environment. A graduate nurse is always in charge of these cases, instructing the assistant nurse, supervising her work and giving those treatments which are at first too difficult for the pupil. Besides learning to take temperature, pulse and respiration, to give baths, to give hypodermic injections, to do the mechanical things in nursing which are thoroughly taught her, the pupil has continual bed-side experience with her patients in all kinds of illness and learns the meaning of symptoms, training her mind and hands to give her patient help and comfort. She learns to make the most possible good out of many inconveniences, to be economical in the use of supplies, to use a substitute where the most modern utensils cannot be had, and to deal tactfully with members of the household as well as with the patient. She learns to obey her physician's instructions and to refrain from advising patients and families in matters out of her province. This nurse takes the place of a domestic nurse in those families, with the advantage of being always under supervision and precluding the dangers arising from ignorance. This work in the homes trains the assistant for future private work when she is to depend on her own resources. The supervision continues until the nurse receives her certificate, and later when she is doing private nursing for herself, she is welcomed to the lectures at the Guild House and any clinical demonstrations which may be held. Her work while with the Guild is among the poor and middle class of people, and her service is given to the people at rates ranging from $3 and $4 a week to $12 and $14, the charges being governed partly by the experience of the nurse, partly by the circumstances of the people.

When the nurse has finished her course and takes her place as a high grade domestic nurse, she registers as a certified nurse of the Albany Guild and charges $15 a week for her service; those who took advantage of the waiver in the State Registration Law and received an R. N. may charge $18 a week. Thus the department provides nurses for the very poor and for that large class of people of limited means who could not possibly pay for a hospital graduate nurse, and where the occasional visits of a nurse would not be sufficient.

Mrs. Quintard in her paper read at the convention of training school superintendents in Philadelphia endeavors to show something of the "provisions already existing for the care of the sick of moderate means" and the need of further provision for the care of this class. It is a subject which for several years has been considered at the annual meetings of the Associated Alumnæ, and no satisfactory means of relief have been devised. Nurses feel that this work must be accomplished by the hospital graduate nurse, either by the nurse giving her service for less than her usual charge, or by a fund provided to make up the difference between the amount paid by the patient and the salary of the nurse. But how can nurses afford to work for less than the usual charges when they have so many personal expenses to be met, and when it is necessary to take so much rest between cases, and how can we possibly raise any fund sufficient to meet the need? Only a few cases could be provided for, and in all cities and towns the vast majority of the people are those who cannot pay $21 a week for a nurse.

If all the nurses being graduated from training schools can be kept busy by the well-to-do, and as a usual thing they are busy, think of the larger number of nurses needed to supply this greater middle class. In response to this need in every city and town there have appeared in the field women, known as the domestic or the practical nurse, who know absolutely nothing about nursing. They may be married women who have had children of their own, which in many minds seems to indicate that such a person is therefore competent to take charge of an obstetrical case, or, having cared for their own children during their various ailments, are therefore experienced enough to nurse other children in critical illness, or women who have cared for husbands and aged parents and think they would like to do nursing for a living, as they are not trained for any other remunerative work in the world. After a few cases these women call themselves experienced nurses, and as such charge $10, $12, $15 and even $18 a week for their work. This work may not be entirely satisfactory to their employers, but it is the best to be found. They just cannot pay $21 or $25 a week and they must have some one. They think that to pay the highest price they can afford will give the best within their reach, and the woman with no training or instructions, the domestic nurse, flourishes; but even of the domestic nurses there are not enough to begin to supply the demand, which is even greater than for graduates.

Realizing the ignorance of the domestic or practical nurse as she has been found in other years, and the demand for something better at less than graduate nurses' rates, correspondence and short course schools are sending out "graduate nurses," who after 10, 12 or 14 weeks of lectures receive their diplomas, thinking they are trained nurses and that their instruction has made them able to cope with any case to which they may be sent. All these things show that there is a demand for these nurses, and a demand for which there must be a supply of the poor nurses until we arrange to have high grade nurses for our great middle class.

Such a training as that given to its certified nurses by the Albany Guild would supply trained domestic nurses to this class of people, the nurse in training being sent out for continuous service under supervision of the hospital trained nurse—such a sum being charged for her service as makes the care possible for the poorer people—and when she has completed her course, going out to those people who can pay more, people who must have nursing for less than graduate nurses' prices and would have to take "Sairy Gamp" if nothing better were in sight. Such a training raises the standard of a domestic nurse.

Miss Alline, the inspector of Nurse Training Schools for the State of New York, in a paper read at Philadelphia in May shows how registration of schools is improving the training in the hospital and is raising the standard of requirements for admission on probation. As the qualifications for admission to the hospital training schools are being raised, and higher school education required of its applicants, there are left such women as some of those who have taken a hospital course in the years past and who have made good nurses, although not up to the standard of education which is and should be required of the hospital graduate nurse. There are also women who for personal or family reasons would not enter a training school in the hospital, or who could not give the three years' time necessary to such a training. These people would take such a training as the Albany Guild affords and become good high grade domestic nurses. The work done by these nurses does not conflict with that of the graduate nurse as it would be understood that such certified nurses were not in the same rank as a hospital graduate and not eligible to State registration. They become attendants, assistants to graduate nurses, and in general nursing reach this great middle class. In the Guild Certificate the limitation of charge is mentioned, and as to those nurses whom we have sent out we have no reason to think they have overstepped the bounds and claimed to be graduate nurses. They are all busy and are known as superior nurses.

If this sort of training were to be taken up by the visiting nurse associations of the different towns and cities there would be in each community a few women who would go out as high grade domestic nurses and by their superior training and experience prove the value of this practical course of study for domestic nurses. Care must be used in accepting applicants, and the probationary period is necessary. We must have women who can be trusted, as the pupil is not constantly under the eye of a senior nurse as in the hospital.

It may be encouraging to others to say that in the work of the Albany Guild this department has become self-supporting.

HEAT is one of the most important stimulants to living cells. The hot bath is the most common means of applying heat as a therapeutic agent, and is useful in a great number of conditions; it is contraindicated in plethoric individuals and in advanced tuberculosis. The usefulness of local applications of hot water is well known. The general hot douche is a remarkable means to bring blood to the surface of the body, to accelerate the circulation, etc. Nothing is more cleansing than the moist vapor bath, since it cleans out the pores from within by the expelling force of hypersecretion.—*New York Medical Journal.*

WE must use no words that we are not prepared to back up with deeds.—THEODORE ROOSEVELT.

THE NURSING OF CHILDREN.

BY MISS MINNIE GOODNOW,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

(Continued from page 629)

NURSING IN ABNORMAL OR DISEASED CONDITIONS.

THE nurse should not lose an opportunity to impress the laity with the fact that she is not a substitute doctor and does not prescribe. If nurses would take the pains to emphasize this point, they would save much trouble for themselves, the patient and the physician.

It is rare that a nurse is called upon to take the initiative in the care of a patient, though the patient be only a baby, and no well-trained nurse wishes more than her own responsibility. The following pages will therefore deal only with the nursing treatment of the various diseases and conditions, and will give only information which is within a nurse's province or suggestions which she may carry out in an emergency.

In nursing, as in other things, prevention is better than cure, and it is much more to the credit of a nurse or a mother to abort a condition by prompt action than it is to furnish the doctor with a case. Proper feeding and attention to the bowels are the main factors in the prevention of disease. At least one good bowel movement each day must be secured, and that by the simplest possible means; by diet, for a steady thing; by enema, upon occasion; by cathartic, rarely. Well-cooked, simple food, at proper intervals, must be supplied. Regularity in feeding is not less important than the right food. Great variety of food is not necessary for children; and there are many articles of diet which ought not to be even thought of in connection with little folks.

CLASSES OF DISEASE.

The diseases to which young children are subject are most often those of an infectious character or those originating in the digestive tract. These are conditions in which the nursing is of prime importance.

NAVEL INFECTION.

An infected cord is the physician's dread, and is an unpardonable occurrence; the blame can hardly be laid to any one but the nurse. Thoroughly aseptic dressings are the best preventive; failing in these, antiseptics must be used; powdered boric acid is commonly ordered and may be used freely. If any redness or odor is noticed, full-strength alcohol applied on absorbent cotton and changed twice daily may be employed, and is invariably effective.

MASTITIS.

Inflammation of the mammary glands is not uncommon in the first or second week of life; it is due, as in adults, to infection. It occurs in male as well as female children. If the breasts are found to be hard or to contain secretion, they should be let entirely alone—no rubbing or squeezing done. They may be washed very gently with sterile water and a smooth binder made from a narrow roller bandage applied; this should be put on rather snugly and fastened with a few stitches; it should be changed daily, to prevent its becoming wrinkled. If, despite precaution, infection occurs, characterized by redness, swelling, and tenderness, the condition must be shown to the physician and he may find it necessary to lance them. A sterile bistoury, a small dressing of gauze and cotton, and a bandage will be needed; some weak antiseptic solution or alcohol may also be asked for.

STOMATITIS.

Sore mouth is always due to lack of cleanliness. It may occur as red spots or patches, or later as white spots which may be mistaken for milk. In a simple case, thorough washing with boric acid solution may be sufficient. Or the doctor may order the spots touched with burnt alum or some other astringent; this may be done while the child is crying, by using a wood tooth-pick with a very small pledget of cotton twisted over it.

OPHTHALMIA.

Ophthalmia may be simple or gonorrheal. The simplest case, however, must be recognized as an infection and treated accordingly. The cardinal point in the care of all eye cases may be impressed here: *never use anything for one eye which has touched the other.* To this may be added two other rules: Never let even a drop of solution run from one eye into the other, and always destroy by burning all dressings which have been used.

A simple ophthalmia is usually supposed by the laity to be due to "cold." It is more often caused by the child's fingers getting into its eyes, or by its head being wrapped in a blanket which is not perfectly clean. The usual treatment given is irrigation at regular intervals with warm boric acid solution, and the nurse must find out from her physician just how he wishes this done. Some doctors prefer to use a fountain bag with a straight glass point; some a medicine dropper with a straight, curved, or collared point; others wish the solution squeezed from a bit of cotton and allowed to trickle over the eyeball. Whatever be the method, the nurse must see that it actually gets into the eye. The child's head should be turned to one side and held in position with the palms of the hands; the fingers of the left hand may be used to separate the eyelids while the irrigation is done with the fingers of the right.

In opening a baby's eye, pull the skin of the lids back; do not press down into the eye. If the child cries, it cannot be done successfully. Stop and wait a minute or divert the child's attention in some way. A drink of water from a bottle is permissible as a pacifier at this time. Considerable practice is needed to become expert in handling a baby's eyes. One must be gentle, but thorough.

If drops are to be put in the eye, remember that one drop placed squarely in the eye will do far more good than a dozen which are immediately squeezed out by crying or smeared over the face. Sometimes success may be attained by dropping the solution in the corner of the closed eye, and when the eye is opened the solution will run in.

In gonorrheal ophthalmia, the child must be isolated, and two special nurses provided. Half-way care and precautions are little better than none. Cold compresses and frequent irrigations are usually ordered, and to be effective must be kept up day and night. In severe cases, a half hour's neglect may spoil a day's work.

The nurse should wear a gown and a cap. She must disinfect her hands after each irrigation and before leaving the room for any purpose. She must never, whether on or off duty, rub her eyes with her hands; it is wisest to keep them away from her face entirely. While irrigating, it is best to wear glasses of some sort (a pair of automobile goggles is excellent for this purpose), as it is very easy to get an infection in one's own eyes by a spatter from the solution. The child's clothing, towels, and whatever bed linen is used, must be disinfected before it is sent to the laundry. After the case is over, the room must be thoroughly fumigated.

The baby should not be kept in a basket or crib, but put on a padded table or a high bed. There should be a convenient place for basins, etc., and a chair for the nurse. Only things in actual use are to be allowed in the room.

For the cold compressing, have a block of ice in a basin and keep on it plenty of bits of cotton or round pieces of gauze—whichever the physician prefers—just the size of the eye. These should be handled by the center, not by the edges. They must usually be changed every two minutes. When removed they are to be dropped into a waste pail or pus basin, or better still, into a paper bag, to be afterward burned. It is needless to say that they should not be used a second time.

The child at first objects to the cold applications, but becomes accustomed to them within a few hours, and sleeps through without disturbance.

The irrigation is commonly done with boric acid, but salt solution or sterile water may be used if ordered. It should be done by the method which the physician prefers, usually with a fountain bag and considerable force. In this case it is best to hold the child in the lap, head slightly downwards between the knees, the child's feet towards the nurse's waist, a rubber sheet covering the lap and draining into a basin on the floor.

If a medicine dropper is used, care must be taken that it is not thrust into the eye, but is held above it. Every particle of discharge must be washed out each time, or the irrigations are of little value. In severe cases it may be necessary to irrigate every fifteen or twenty minutes.

The general nutrition must be seen to, the digestion carefully watched, routine bathing, etc., attended to. An ophthalmia case is not usually allowed to nurse; but ordinarily the mother's breasts may be pumped and the milk fed from a bottle. It is understood that the nurse who cares for the child must not attend the mother.

SYPHILIS.

Congenital syphilis is a fairly common condition, among certain classes, and most of the children thus afflicted die in the first few years of their life. Good nursing, however, may save many of them. Careful feeding and attention to general hygiene are the important factors in these cases. Mercurials or iodides are often given and the nurse is depended upon to watch their effect. If mercurial ointment is used, it should be rubbed in very gently, choosing a new location each day; the abdomen, the sides of the chest, and the inside of the thighs are convenient places upon which to apply it. Use a finger cot or a finger cut from an old rubber glove for protection while doing the rubbing.

(*To be continued.*)

No fool will ever get cured of pulmonary tuberculosis; this is even truer of laryngeal tuberculosis.—*N. Y. Med. Jour.*

FIFTH ANNUAL CONVENTION OF THE INDIANA STATE NURSES' ASSOCIATION.

Reported by MAUDE W. MCCONNELL, M.D.,

Indianapolis, Ind.

THE fifth annual convention of the Indiana State Nurses' Association convened in Indianapolis, September 10 and 11, in the assembly room of the Indianapolis Medical Society, Willoughby Building.

The president, Miss Edna Humphrey, of Crawfordsville, and the vice-presidents, Miss M. B. Sollers, of Lafayette, and Miss Cora Birdsell, of South Bend, were unavoidably absent. The convention was called to order by the treasurer, Miss Anna Rein.

The Rev. A. B. Philputt delivered the invocation. The visitors were extended a cordial welcome by Mrs. Maline W. Smith, president of the Indianapolis Graduate Nurses' Association, also by Chas. W. Moores, vice-president of the Board of Education.

Mr. Moores in his address said he supposed that the reason he had been called upon to speak before an audience of trained nurses was that people were going to require school teachers to be trained nurses. A teacher has to add to her duty of instructor that of nurse and physician, binding up cuts and caring for the ailments of the children while in the school room. He spoke of the need of the trained nurse in the home and in the school, as the school inspection by physicians is inadequate without the assistance of the trained nurse. He congratulated the nurses of the state on the progress they have made by the passage of a law in 1905. He said the nursing profession was a young profession, but was far in advance of his profession (the law) in securing higher education.

Mrs. E. G. Fournier, of Fort Wayne, formerly president, responded.

The address of the morning was delivered by Dr. Frank B. Wynn on "The Education and Ethics of the Professional Nurse." A profitable discussion followed. [Dr. Wynn's paper is published in this number of the GAZETTE.—ED.]

The afternoon session was called to order by Mrs. E. G. Fournier. The minutes of the semi-annual convention held in Evansville were read and accepted. The chairmen of the following standing committeees gave short reports: By-laws, Legislative, Arrangements, Credential and Prevention of Tuberculosis.

The chairman of the Committee on Prevention of Tuberculosis spoke of the necessity of teaching the laity that tuberculosis is a germ disease, infectious but not hereditary, therefore preventable. The nurses were asked to do all in their power to educate the public on the danger to health from preventable diseases, and on their prophylaxis. Their attention was called to the papers read in the section on hygiene of the American Medical Association, published in the *Journal of the American Medical Association,* also to articles on similar subjects in the *American Journal of Nursing.*

After the report of the various committees, the convention was favored with an address by a noted civic reformer, the Rev. Caroline Bartlette Crane, of Kalamazoo, Michigan, on "The Part of the Trained Nurse in Almshouse Reform." [This paper is published in this number of the GAZETTE.—ED.]

In the evening a very enjoyable reception was given in the auditorium of the Young Women's Christian Association. The guests were favored with a song recital by Mrs. Florence Atkins Gavin, whose charming personality and magnificent voice will long be a pleasant memory of the convention.

September 11, the convention was called to order and the following special committees were appointed: Almshouse Work in Indiana, Mrs. E. G. Fournier, of Fort Wayne, chairman; Red Cross, Miss Matilda Hale, of Indianapolis, chairman.

The officers for the ensuing year are: President, Miss Edna Humphrey, Crawfordsville; first vice-president, Miss M. B.

Sollers, Lafayette; second vice-president, Miss Cora Birdsell, South Bend; secretary, Miss M. D. Currie, Indianapolis; treasurer, Miss Anna Rein, Indianapolis.

Chairmen of standing committees: Legislation, Mrs. C. A. Brown, Indianapolis; Credential, Mrs. Martha Elliott, Fort Wayne; By-laws, Miss Elizabeth Heffner, Lafayette; Publication, Miss F. M. Ott, Indianapolis; Tuberculosis, Dr. Maude W. McConnell, Indianapolis; Nominating, Miss Sara L. Cook, Crawfordsville.

To facilitate the work of the association the State was divided into districts and directors elected for each district, whose duty it is to keep in touch with the work in their district, promoting good fellowship among the nurses and furthering the care of the sick. The districts and directors are: Northwestern, Miss Minnie E. Moore, Lafayette; Northeastern, Miss Nellie Snider, Fort Wayne; West-central, Miss Sara Williams, Terre Haute; Central, Mrs. Anna D. Hazelrigg, Indianapolis; East-Central, Miss Clodia Johnson, Muncie; Southeastern, Miss Cora V. Nifer, Richmond; Southwestern, Miss Allie E. Butler, Evansville.

A State pin of blue and white enamel was adopted by the association. The design is a blue cross on a white background surrounded by a circular border of blue, on which are inscribed in gold the words, INDIANA STATE NURSES' ASSOCIATION. On

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the cross is the word MEMOR
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An interesting paper was read on "Rural Nursing," by Miss E. Armfield, of Crawfordsville, which produced a lively discussion on the advantage and disadvantage of rural nursing, many nurses preferring the country.

At the afternoon session two papers were read. The first paper, "The Nurses To-day and To-morrow," by Miss Nellie Snider of Fort Wayne, contained much good advice and inspiration for future work. The second paper, by Miss Cora V. Nifer, of Richmond, on "The Training at Columbia University," gave an interesting account of her experience as a student, explaining the course of instruction and the advantages of a course of training. This was an interesting and instructive paper, coming at a time when the nurses of the State are helping to raise money to endow a chair in Columbia University.

At. 4 P. M. the convention adjourned to give the visitors an auto ride.

The semi-annual convention will be held in the spring at Fort Wayne, Indiana.

THE CHICAGO CONVENTION OF THE AMERICAN HOSPITAL ASSOCIATION.

REPORTED FOR THE GAZETTE.

THE ninth annual meeting of the American Hospital Association was held at the Palmer House, Chicago, September 17-20. In many respects it must be counted as the most successful convention the association has ever had. The attendance was large and included superintendents of hospitals all the way from Seattle, Washington, on the one side, to Halifax, Nova Scotia, on the other. More visitors and members from Canada were present than at any previous convention. From the first session to the last the enthusiasm and interest never waned. Great credit is due Dr. Ross, superintendent of Buffalo General Hospital, for the fine program presented and his able management of the affairs in general.

While all the papers were of a high order there were three sessions that seemed to attract larger audiences and create more general interest than some of the other sessions. On Tuesday afternoon Miss Jane Addams, of Hull House, Chicago, spoke on "The Layman's View of Hospital Work Among the Poor." Rev. A. S. Kavanagh, superintendent of the Methodist Episcopal Hospital, Brooklyn, spoke on "Hospital Support and How to Secure It," and Dr.

J. U. E. Brown, superintendent of Toronto General Hospital, spoke on "The Work of an Immunizing and Inoculating Department."

On Thursday morning Dr. Richard Cabot, of Boston, spoke on "The Organization of the Out Patient Medical Work," with particular reference to the social work being carried on under his direction by visiting nurses and others at the Massachusetts General Hospital, Boston. He paid a very high tribute to the visiting nurse. In fact he believes it is an extravagant, wasteful use of time and money to try to conduct a dispensary without visiting nurses. His comparison of the physician in out patient work without a nurse to a body without hands seemed especially apt.

During the session devoted to the question-box the following questions of interest to nurses were discussed: "The Cause of the Diminished Number of Applicants for Training Schools;" "Is the Eight Hour Day for Nurses Practicable?" "Is it Desirable that a Chair of Hospital Administration be Established in Universities?"

The general sentiment appeared to prevail that while university courses in hospital administration were desirable yet they would always be for the privileged few, and that the hospitals that kept nurses for three years owed it to the nurses to give a systematic course on hospital management to such as desired it—a course that would enable them to enter on the duties of managing a hospital or training school with some idea as to the way to take hold of the business. We venture to predict that a new era is about to dawn and that the nurses of the future will have opportunities in this respect such as institutional nurses have long coveted.

The last session of the convention was devoted to training school work. Miss Mary L. Keith, superintendent of the City Hospital in Rochester, N. Y., gave a most excellent report on progress in training schools, which contained a great deal of information regarding present methods and conditions. Mr. George P. Ludlam, of New York Hospital, New York, presented an able paper on "The Reaction in Training School Methods," which called forth a spirited discussion. There seemed to be an almost complete unanimity of opinion that much superfluous teaching was being forced on pupil nurses and that some steps must be devised to cut it out if possible. The two-year and three-year systems both had their strong advocates. At the close of the session the following resolution was read by Dr. A. S. Kavanagh:

"Whereas, the shortage of candidates for training is causing embarrassment in many hospitals, and

"Whereas, it is the general belief that the main reason for this condition is the three-year term:

"Resolved, that the American Hospital Association respectfully requests that boards of managers consider the advisability of shortening the term to two years exclusive of the probation period, and that an optional course of six months leading to a special certificate and devoted to hospital management be inaugurated where desirable and possible." This resolution was referred to the Committee on Training Schools.

The most important advances made were the admission of trustees and directors of hospitals to the association as active members, thus greatly enlarging the scope and influence of the association, and the presenting of a petition signed by about thirty members for the establishment under the auspices of the association of a summer school for hospital workers which would be open to hospital managers, superintendents of hospitals and training schools, head nurses, physicians—in short, to any who were sufficiently interested to pay the tuition fee and attend. This petition was presented too late in the session for formal action by the association and was referred to the Committee on Training Schools, to be considered next year.

Dr. S. S. Goldwater, of Mount Sinai Hospital, New York, who is the president-elect for the coming year, announced the establishment of a course on hospital administration in connection with one of the New York medical colleges. This course will be open to physicians, nurses or laymen who wish to acquire this special training to fit them to fill positions as hospital superintendents. Full particulars regarding this course can be obtained by correspondence with Dr. Goldwater.

A most cordial invitation was extended by the superintendent and managers of Michael Reese Hospital, Chicago, to inspect their magnificent new hospital and be the guests of the hospital at luncheon. Quite a large number availed themselves of this most generous invitation.

The convention adjourned at noon on Friday to meet next year in Toronto.

MEDICAL CHARITIES IN NEW YORK CITY. V.*

(Continued from page 637.)

AMBULANCE SERVICE.

The ambulance service, as is elsewhere stated, was suggested by Dr. John Dalton, an early member of the Bellevue staff, and the late eminent professor of physiology. His extended experience in the army led to an appreciation of the value of ambulances in transporting wounded soldiers, and upon his return from the war, to the proposal of a City ambulance service. The system inaugurated in Bellevue in 1867 was the first of its kind in the world.

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The ambulance system, important though it is, where the average number of hospital ambulance calls are more than 40,000 each year, has as yet not been co-ordinated and there is no central bureau upon which responsibility for its efficiency may be placed. It is left entirely to individual hospitals as to whether or not they shall have an ambulance service, and their choice depends largely upon their ability to add the expense of the service to their already large budget. The cost of one ambulance, two horses and the equipment is about $1,200, and the expense of repairs, etc., may be estimated at close to $1,000 year. The electric ambulance, from which so much was hoped in the way of quicker and more comfortable service, has not been satisfactory, owing to the fact that it cannot be depended upon, and to-day, with one or two exceptions, only horse ambulances are used. . . .

The thirteen hospitals, exclusive of those under the Department of Health, whose ambulances respond to public calls answered in 1903-4 42,777, and 46,788 in 1904-5. St. Gregory's Emergency Hospital, near the end of the Brooklyn Bridge, has a large ambulance service, but as it has not been in existence a year its figures cannot be added with the others . . .

The recommendation has been repeatedly made that an ambulance bureau, preferably municipal, be established, which shall control ambulances and receiving stations throughout the city. By co-operation with the ambulances maintained by the hospitals such a bureau could have full information at all hours of the ambulances in use; and when an accident occurred in which large numbers of persons were injured from fire or other causes such an arrangement would be valuable for supplying prompt medical attention. The Police Department announces that a better plan of apportionment of districts, regardless of precinct boundaries, is being considered, but while a reapportionment would undoubtedly greatly improve the present situation it cannot solve the problem of adequate emergency care for the injured in all parts of New York City.

CONCLUSIONS.

Marked progress is shown in the study given to hospital affairs within the past three years. Columbia University has, in response to a request from the American Society of Superintendents of Training Schools for Nurses, offered a course in

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*This is the fifth article condensed from the study by Miss Florence L. Lattimore in the *New York State Journal of Medicine*.—ED.

Hospital Economics to give special training to future teachers and superintendents in training schools and hospitals. This course, though covering the details of the government and the administration of hospitals, does not include the related social facts.

For the purpose of stimulating the hospitals of Greater New York to consider the desirability of adopting uniform methods of accounting and statement, a Conference on Hospital Needs and Finances was called on March 3, 1905, by the Association for Improving the Condition of the Poor. At this conference, which represented sixty-two hospitals, a committee of twelve was appointed to present a report on Hospital Needs and Hospital Finances. Before the report was presented, however, four of the largest hospitals in Manhattan—St. Luke's the Presbyterian, New York and Roosevelt —adopted a system which the Committee later recommended for other general hospitals and urged that it be made the basis for uniform systems of accounting in hospitals which belonged to other classes. The Committee recommended also that a yearly digest of hospital reports should be published and also that there should be a compendium outlining the work of the hospitals and their methods of government. In September, 1905, these suggestions were approved at the annual meeting of the Association of Hospital Superintendents of the United States and Canada. Activity along improved lines is further indicated by the organization of a Superintendents' Association to stimulate closer co-operation in hospital affairs among the chief executives of the hospitals. Another recent organization is a permanent Hospital Conference, started by the Hospital Saturday and Sunday Association of New York City. And an important sign of progress is seen in the action of the Mayor who, in 1905, appointed fifteen well-known citizens as a Committee to confer with the Commissioner of Charities, the Commissioner of Health, the Tenement House Commissioner, and the President of the Board of Trustees of Bellevue and Allied Hospitals to plan for the reorganization of the public hospital system. This plan is to be submitted prior to the expenditure by the City of a large sum of money in the extension of its hospital service. That three different City departments should control the public hospitals of New York and that they should all be planning individual provisions for the care of City consumptives, shows great need for a general scheme of organization.

Like most of the later developments in medical charities, the above committee is the result of the combined efforts of physicians, nurses, charity and settlement workers, and municipal officers, who are demonstrating to the community that it is to the common interest of all to reduce, through the removal of the conditions which lower vitality, the numbers of those who do not reach the average physical standard.

The report made by the Committee on Hospital Reports and Hospital Finances dealt with the financial side of hospital facts, and the social data necessary for a fuller knowledge of the provision needed in this city are not yet outlined. There is no consensus of opinion as to the facts which it is worth while to gather and compare.

It is surely a point of interest to every hospital, as well as to the community, whether the dispensary can be so supplemented and strengthened by a proper system of investigation of its applicants, the keeping of significant facts in the records, and further co-operation with visiting nurses, diet-kitchens, and charitable agencies that it may supplement the hospital and leave the hospital wards open for cases that demand hospital equipment.

To know the causes of disease is a long step toward preventing them, and before this knowledge can be acquired the medical charities must co-operate to a greater extent with those who work among the poor. The first requisite to co-operation is the acceptance of a common language to lead to a mutual understanding of terms, which shall at all times carry the same meanings. No amount of outside work can deduce data from imperfect records. The statistics bearing upon the conditions of life and the occupations of patients is meagre to an extreme degree, and it is the hospitals and dispensaries from which this information must be sought if it is to be determined. Such information is of the utmost importance in guiding those who seek knowledge from close surveillance of unhealthful trades and other employments in which the poorer classes earn their livelihood. It should be possible to learn how many of the sicknesses of the poor come from conditions in the home and how many come from conditions outside of the home; it is also a duty of these institutions to see that the public is educated as to the value of the laboratory and other necessary adjuncts of medical education, where individual cases are studied for the benefit of the people as a whole. The workers in the field of poverty, those initiating ameliorative measures, those striving to establish preventive movements and those encouraging provision for the poor who are convalescent or incurable need the facts which none but the medical charities can furnish, before co-operation can be as intelligent as the cause urges.

GENERAL HOSPITALS.

Manhattan and The Bronx, 1903-1905.

1, Bellevue; 2, Beth Israel; 3, City Hospital, B. I.; 4, Columbus; 5, Flower; 6, Fordham; 7, French Hospital; 8, German; 9, Gouverneur; 10, Hahnemann; 11, Harlem, 12, House of Relief; 13, J. Hood Wright Memorial; 14, Lebanon; 15, Lincoln; 16, Metropolitan, B. I.; 17, Metropolitan Hospital and Dispensary; 18, Mt. Sinai; 19, New York Hospital; 20, New York Polyclinic Hospital; 21, New York Post-Graduate Hospital; 22, Presbyterian Hospital; 23, Roosevelt Hospital; 24, St. Francis's Hospital; 25, St. Luke's Hospital; 26, St. Mark's Hospital; 27, St. Vincent's Hospital; 28, Sydenham Post-Graduate Hospital; 29, Trinity Hospital; 30, Washington Heights Hospital.

SPECIAL HOSPITALS.

Manhattan and The Bronx, 1903-1905.

1, Babies' Hospital; 2, Children's Hospital, B. I.; 3, General Memorial Hospital for Cancer and Allied Diseases; 4, Home for Incurables; 5, Hospital for the Aged and Infirm, B. I.; 6, Hospital for Contagious Eye Diseases; 7, House of Calvary; 8, House of the Annunciation for Crippled and Incurable Children; 9, House of the Holy Comforter; 10, Isabella Heimath; 11, Laura Franklin Free Hospital for Children; 12, Manhattan Eye, Ear and Throat Hospital; 13, Manhattan Maternity Hospital and Dispensary; 14, Metropolitan Throat Hospital; 15, Misericordia Hospital; 16, Montefiore Home; 17, New Amsterdam Eye and Ear Hospital; 18, New York Eye and Ear Infirmary; 19, New York Foundling Hospital; 20, New York Home for Convalescents; 21, New York Infant Asylum; 22, New York Infirmary for Women and Children; 23, New York Medical College and Hospital for Women; 24, New York Ophthalmic and Aural Institute; 25, New York Ophthalmic Hospital; 26, New York Orthopædic Dispensary and Hospital; 27, New York Skin and Cancer Hospital; 28, New York Society for the Relief of the Ruptured and Crippled; 29, Nursery and Child's Hospital; 30, Reception Hospital (Department of Health); 31, Riverside Hospital (Department of Health); 32, St. Andrew's Convalescent Hospital; 33, St. Gregory's Free Emergency Hospital and Ambulance Station; 34, St. John's Guild; 35, St. Joseph's Hospital; 36, St. Rose's Free Home for Incurable Cancer Patients; 37, Seton Hospital; 38, Sloane Maternity Hospital; 39, Society of the Lying-In Hospital; 40, Willard Parker Hospital; 41, Woman's Hospital of the State of New York.

In the tenement districts the little children whose only playground is the street are liable to have their sensitive lungs irritated, and their sensitive bodies and circulation chilled to a degree which results in causing no inconsiderable share of our infant mortality. In the tenement districts, moreover, where the street life constitutes so large an extension of the house life, the condition of the streets is most important from a social, moral, and economical standpoint, and hence becomes in many ways a medical problem also. Dirt begets dirt, and the tenement dweller who looks into a filthy street only to see his overflowing garbage pail unemptied for a week and his ashcan ruthlessly tipped over on a snow bank, is likely thereafter to empty all manner of rubbish directly into the street. His hallway and his room become filled with the dirt tracked in from the street by the feet of every incomer, and he soon grows less careful in matters of domestic and personal hygiene.— Dr. W. Gilman Thompson, in *N. Y. Med. Jour.*

TECHNICALITIES.

Items of value to nurses in their work will be welcome to this column.

After the Bath.—Remember, after bathing, to dry the hair and scalp thoroughly. Inclement and changeable weather makes this necessary in order to be free from colds.—*Ex.*

What Kind of a Patient?—It is as important to know what kind of a patient the disease has got, as to know what kind of a disease the patient has got.—*Amer. Jour. Clinical Med.*

Hemorrhage from Varicose Veins.—Patients with varicose veins should be instructed that in case hemorrhage takes place, the best method of stopping it temporarily is to merely compress the bleeding-point with the finger.—*Amer. Jour. Surgery.*

Refresh.—Water, plenty of it in small quantities, cool and fresh. It both refreshes and facilitates natural elimination. I intend to reiterate the word "refresh" in the treatment of pneumonia. Refresh the patient with cool, fresh air. Refresh with water, and plenty of both.—Dr. W. P. Northrup, in *Medical News.*

Diet in Acute Intestinal Disease.—As a rule everything should be served warm, says Einhorn. Acute disturbances must be treated on the principle of rest, permitting only liquid food and semiliquid foods in small or moderate quantities. In acute enteritis, coffee, cold drinks, acid lemonades, and all fruit juices should be strictly forbidden.—*Denver Medical Times.*

How to Remove a Plaster Bandage.—The removal of a plaster-of-Paris dressing is greatly facilitated by first scraping a groove with a knife, and then dropping along it a solution of caustic soda. In a few minutes the plaster becomes pulpy along this line, and the bandage can then easily be cut through. If two lateral grooves be made, instead of one, a lid can be cut out of the bandage, the leg can be lifted up for the necessary inspection and returned, the lid being reapplied and retained with a roller bandage. In this way the plaster dressing is not cracked, and the limb is not jolted in the efforts to remove the bandage. By this method, also, it is a very easy matter to cut any fenestra that may be needed.—*Massachusetts Medical Journal.*

Typhoid Prophylaxis.—Nearly all typhoid fever is contracted from eating raw food. The foods usually eaten raw are: Water, milk, ice and vegetables. We have had in evidence that the Chicago water has carried this disease for several years past. The milk is not as well watched as is the water. If you are not certain as to your milk, you had better heat it just short of boiling for a few minutes. Be careful of your ice supply. All vegetables which are to be eaten raw should be thoroughly washed in clean water.

Typhoid may also be carried by flies. If there is much typhoid in the neighborhood, screen your houses against flies. Yard privy vaults are always under suspicion as spreaders of typhoid.—*Chicago Health Bulletin.*

Clothing for Helpless Rheumatic Patients.—All underwear should be made of fine flannel. Chemise and petticoat bodice fasten on both shoulders, as well as down the front. Petticoats to button from waist to hem down the front; they can then be rolled under the patient the same as a sheet. Stays, if worn, should be of a soft material; they and a pair of flannel drawers are easily put on. The dress skirt should fasten from waist to hem down the side, and be put on the same way as the petticoats. When on, the fastening does not show. The dress bodice, made in two pieces, fastens down front and back. I found having clothes made this way most helpful when nursing a case of rheumatic gout, where the patient was able to be up and dressed. It saved all the exertion of getting arms that were very painful through armholes. Nightgowns, also of flannel, I had made to unfasten from shoulder to wrist, and found it enabled one to massage the arms without removing the nightgown.—*Brit. Jour. of Nursing.*

Delirium and its Relief.—When a patient is delirious he is often troubled with a succession of dreams passing rapidly through the mind to which there is no relief as on awakening from a nightmare in health. His brain is strained almost to breaking point and the patient is conscious of the strain, but is unable to recognize those around, ready, but almost powerless to help. I have experienced this in typhoid, and can speak from the patient's point of view. It is well that the nurse should never leave a dim light in the room—shadows are intolerable!—they assume weird shapes, and are an agony to the distorted imagination. Again, never closely screen the bed—the screens are walls falling and crushing out life—or the prison walls of a torture-chamber. Never have pictures on the walls, they come to life in a terrifying manner. Again, do not talk in a subdued tone, you are a plotter of mischief, as you stand there. Avoid strongly scented flowers in the room—the agony of a few violets to a sensitive unbalanced mind! Let the night nurse, if in a special ward, not try to be noiseless, but speak and act firmly and kindly.—*Brit. Jour. of Nursing.*

Book Reviews.

NURSING: ITS PRINCIPLES AND PRACTICE FOR HOSPITAL AND PRIVATE USE. By Isabel Hampton Robb, Graduate of the New York Training-school for Nurses attached to Bellevue Hospital; late Superintendent of Nurses, and Principal of the Training-school for Nurses, Johns Hopkins Hospital, Baltimore, Maryland; late Superintendent of Nurses, Illinois Training-school for Nurses, Chicago, Illinois; member of the Board of Lady Managers, Lakeside Hospital, Cleveland, Ohio; Honorary Member of the Matrons' Council, London, England. Third Edition, Revised and Enlarged. Illustrated. Price, $2.00. Cleveland, E. C. Koeckert, Publisher, 1906.

Mrs. Robb's book well deserves the prominent rank that is assigned to it as a classic in the literature of nursing. It is broad and comprehensive, covering adequately the whole field of nursing in hospital and private practice without dwelling at length on the peculiar features and technic of specialties in nursing. It affords one an excellent idea of nursing in general as practiced in the best hospitals and by the best trained private nurses. The revision brings the third edition strictly up to date. The nurse and physician may rely on this book for the very latest methods and ideas without any exploiting of fads, any discussion of rival theories, or any controversy about anything. We have here 565 pages as full of meat and as honestly written as any that have ever been offered to the nursing profession. What enhances the value of the book very materially is the fact that it is all good English, bearing the marks of clear thinking and careful phrasing which place it far above the mass of slipshod, careless and ungrammatical writing which somehow or other is always claiming recognition as "literature." We have read the book carefully and we fail to find a half dozen errors of any sort in the writing or printing of the whole volume. A work so faithfully performed speaks for itself; it is practically above criticism—or praise.

But this treatise is not intended to take the place, in any way, of practical, first-hand knowledge. It is not a substitute for the training school and the hospital, but it supplements these necessary educational processes in a most acceptable and effectual way.

It may be misleading to single out a few chapters for special commendation, but we would like to call attention to the fine discussion of pulse and respiration from a scientific viewpoint. The last chapter, also, dealing with the care of nervous cases, deserves much praise. Throughout the book there is a fine conception of the province of the nurse and her relation to the physician, the family and friends. To share in the spirit and inspiration of this book will be of much greater benefit to the reader than merely to absorb any amount of the detail with which it is well filled.

In a future edition we would like to see more attention devoted to the subject of suppuration. We believe, also, that the author could place her readers under still greater obligations by adding a chapter on venereal diseases, giving all the facts that a nurse needs to know.

THE PRACTITIONER'S MEDICAL DICTIONARY. An Illustrated Dictionary of Medicine and Allied Subjects, including all the Words and Phrases Generally Used in Medicine, with their Proper Pronunciation, Derivation, and Definition. Based on recent medical literature. By George M. Gould, A.M., M.D., etc. P. Blakiston's Son & Co., 1907.

This handsome and convenient volume contains trustworthy definitions of such medical words and terms as the practitioner may meet with in his reading of standard medical text-books, monographic or journalistic literature. The old lists have been kept complete and the best of the new and probably enduring words have been included. The metric system of weights and measurements in doses, etc., has been added; the additions and changes of the new Pharmacopœia have been inserted, and the recommendations of the new [B N A] anatomic nomenclature have been noted. There are a number of valuable and useful illustrations. The book is to be commended.

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LATE PROGRESS IN THE PHYSIOLOGY OF DIGESTION.*

By Charles D. Aaron, M.D.,

Detroit, Mich.

Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine; Clinical Professor of Gastroenterology in the Detroit College of Medicine; Consulting Gastroenterologist to Harper Hospital, etc.

Our knowledge of the physiology of digestion is now better than it has been at any previous time. Recent advances have added much to our understanding. To bring forward accurate information in this study requires patience and perseverance. We owe much to physiologists in both this country and abroad for the great work they have accomplished. Much has been done by them to bring about the important progress that has been made in our knowledge of the physiology of digestion.

It has been demonstrated that the parotid gland secretes that part of the saliva which contains ptyalin. This latter acts on the boiled starches in the food and converts them into sugar. From the time the food enters the stomach this transformation continues for about one half to three-quarters of an hour after each meal. During mastication the saliva is thoroughly incorporated with the food and the inner part of the bolus continues to get the benefit of the ptyalin even when the acidity of the stomach has attained to a high degree. On this account most of the digestion of boiled starches takes place in the stomach. We can safely conclude that the first part of digestion is amylolytic. It is true that the acid of the gastric juice in the stomach destroys the action of the ptyalin; but this acid cannot permeate the bolus immediately, and the inner part, being thus protected, is acted upon by ptyalin for some length of time.

The food, which has been thoroughly masticated and incorporated with saliva in the mouth, passes down the esophagus into the pharynx and lodges in the fundus of the stomach. In a comparatively short time a large quantity of food is accumulated there. This mass is kept at the temperature of the body, and while the acid gastric juice cannot permeate it at once the action of the ptyalin continues uninterruptedly for a period of from thirty to forty minutes. The salivary glands have much to do with the secretion of gastric juice. There can be no doubt that the salivary glands have an internal secretion which is taken up into the blood and which induces the secretion of hydrochloric acid. Hemmeter has recently made an extract of the salivary glands, and by introducing it intravenously has induced the secretion of hydrochloric acid in the stomach of a dog, where it was previously lacking. Even before the food actually reaches the stomach the highly acid gastric juice is secreted and is ready to act upon the bolus. This hydrochloric acid checks the action of the ptyalin and soon destroys its amylolytic power. The longer this acid juice can be kept from permeating the mass in the fundus of the stomach the more action can be brought about by the presence of the ptyalin.

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* President's address read at the thirty-fifth annual meeting of the Northern Tri-State Medical Association at Detroit, Michigan, July 9, 1907.

It is estimated that there are five million glands in a normal stomach which secrete the acid gastric juice. In the living stomach there is a difference between the pyloric portion and the fundus, but the line of demarcation cannot be recognized in the dead stomach. There are less folds in the one-fifth pyloric portion and the mucous membrane seems to be closely attached to the muscular tissue. By careful examination a line of division may be recognized which separates the four-fifths cardiac portion from the one-fifth pyloric portion. It is now known that the cardiac four-fifths of the stomach acts as a sort of reservoir for the food, contracting upon the whole mass and forcing the liquid or semi-liquid substance on toward the pyloric portion. In the pyloric portion there is a continual motion forcing the chyme on through the pylorus into the duodenum. If the pylorus be closed, the food regurgitates back and is again forced on toward the duodenum; thus a continuous churning motion in this part of the stomach brings all the food in contact with the mucous membrane of the pylorus. It is here that the food which has not been properly masticated in the mouth must be divided, and for this reason the pyloric portion is more susceptible to irritation than any part of the stomach. If the pylorus be compelled to reduce to fine particles food that should have been broken up in the mouth, this may be the frequent cause of ulcer and carcinoma in this region.

The glands of the stomach differ in structure. In the fundus we find glands consisting of a duct into which two secreting tubules empty. These tubules are lined with two kinds of epithelial cells called the central or principal cells and the oxyntic or parietal cells. In the pyloric portion we find each gland consists of a duct that has three or four secreting tubules emptying into it. Here we find only one kind of cell, the central or principal cell. It has been demonstrated that hydrochloric acid and pepsin are found in the fundus of the stomach, while pepsin alone is found in the pyloric portion. On account of the different structure in the glands in the two parts of the stomach it is assumed that the oxyntic or parietal cells have to do with the secretion of hydrochloric acid, while the central or principal cells have to do with the secretion of pepsin.

The secretion of gastric juice is a reflex nervous mechanism, for the mere presence of food in the mouth induces the secretion in the stomach. Again, the mere seeing, smelling or speaking of food can produce psychic secretion in the stomach. The two pneumogastric nerves have this under their control, as psychic secretion can be abolished by severing both of them. Division of the pneumogastrics brings about an absence of gastric secretion and death from inanition. Stimulation of both pneumogastrics produces stoppage of the heart and anemia of the mucous membrane of the alimentary canal. While the early secretion of gastric juice is due to a nervous mechanism, the latter secretion is due to the presence of food in the stomach itself. Water has no such effect and the mere presence of liquid in the stomach will not cause the secretion of gastric juice. The stomach will not absorb water, and if the pylorus be tied and a definite amount of water be introduced into the stomach the same amount can be removed some hours later. Experiments have proved that injecting a decoction of the pyloric mucous membrane with an acid into the portal vein will induce a secretion of juice in the stomach having proteolytic power. It is now assumed that the first products of digestion coming in contact with the membrane of the pylorus produce a substance that is absorbed and carried to all the glands in the stomach exciting their activity. This substance has been called gastric secretin. Accordingly, normal gastric secretion is due to two factors: first, a nervous secretion due to the action of the two vagi; second, a mechanical secretion due to the production of the specific secretion in the pyloric portion, which is absorbed and which stimulates the secretion in the gastric glands. So long as there is food present in the stomach to stimulate the production of gastric secretin the glands will secrete juice to continue digestion until all the stomach contents have been emptied into the duodenum.

Just as soon as the acid chyme enters the duodenum it is subjected to the influence of three juices—the secretion of the glands of the intestine, the secretion of the pancreas and the secretion of the liver. Acids in the small intestine have the faculty of increasing the flow of pancreatic juice. The farther down the intestine the acid is introduced the more diminished is the secretion of the pancreas. The secretion of pancreatic juice is brought about by the action of a substance produced by acids on something in the epithelial cells of the upper part of the intestine. This new product is absorbed and stimulates the secretion of the pancreatic cells. The name intestinal secretin has been given to this specific substance. It is assumed that the epithelial cells lining the upper part of the small intestine contain a substance which has been called pro-secretin, which, by the action of acids, brings about a hydrolytic process and the result is a new substance called secretin. Secretin is not a ferment, for boiling does not destroy it.

The degree of alkalinity of the pancreatic juice seems to be about the same as the degree of acidity of the gastric juice. This is due to the fact that the acid enters the duodenum and acts upon the epithelial cells producing secretin, which in turn acts upon the pancreas so that it secretes an equal amount of pancreatic juice. The acidity and alkalinity of the duodenal contents have an influence upon the opening and closing of the pylorus. When the pyloric portion of the stomach has attained a certain degree of acidity the pylorus opens, allowing the acid chyme to enter the duodenum. The acid in the duodenum reflexly closes the pylorus, and this is kept closed until the secretion of bile, intestinal and pancreatic juice have neutralized the duodenal contents; then the acid in the pyloric portion of the stomach opens the pylorus allowing a certain amount of chyme to enter the duodenum. The acid chyme in the duodenum acts as a sort of inhibitor, preventing the duodenum from becoming overburdened. Just as soon as the duodenal contents are neutralized the pylorus opens again, allowing more of the stomach contents to enter the duodenum.

Juices from the pancreas rapidly convert the starch into maltose, fats are quickly broken up into fatty acids and glycerine; but the protein seem to be acted upon but slightly, and it has been frequently said that this proteolytic ferment is exceedingly weak. It has recently been shown that when this ferment comes in contact with a few drops of intestinal juice it becomes quite active. It is now known that the proteolytic ferment of the pancreas can only be activated by coming in contact with the secretion of the intestine. So now we recognize that trypsinogen must come in contact with enterokinase, which is found in the intestinal juice, before it is converted into trypsin. Enterokinase is a ferment, and any solution made from the pancreas can be activated by it.

Bile is important for digestion when the food is passing from the stomach down the intestine. The bile is emptied into the duodenum soon after a meal. An examination of an animal in a starving condition discloses the fact that the gall bladder is usually full. It is normally found empty when examined after the taking of a good meal, so that the passing of food from the stomach into the duodenum not only causes the gall bladder to empty itself, but also causes an increase in the secretion of bile in the liver. It has been surmised that the liver might be influenced similarly as in the case of the pancreas, by the production of some substance in the intestine, inasmuch as the secretion of bile increases just when the acid chyme comes in contact with the mucous membrane of the duodenum. Because the secretion of pancreatic juice and bile takes place at the same time and enters the intestine from the same duct, it was thought that each depended upon the same substance for proper functionation. The inference proved to be correct; for injections of secretin into the veins of the lower animals produced the secretion of bile in double the quantity. So we now know that the substance which is produced in the epithelial cells of the intestine has the power of increasing the activity of both the pancreas and the liver.

The intestinal juice has been found to have other functions besides activating the pancreatic juice. In the upper part of the small intestine the production of secretin is more marked, while absorption is predominant in the lower part. There is no question in the minds of physiologists that there exists a secretin that acts as a stimulus for the secretion of the succus entericus. This has not as yet been practically demonstrated. We know, through the study of many intestinal fistulæ, that the greatest amount of intestinal juice is secreted about three hours after meals. This is just the time when the pancreas is doing its best work. The pancreatic juice itself injected into the blood has no influence on the secretion of the succus entericus. It has been found that the same substance—that is, secretin—which is produced from some precursor by the acid chyme in the intestinal cells, has also the power of increasing the secretion of the intestinal juice in the upper part of the intestinal canal.

The recent studies of the movements of the stomach and intestine are interesting, inasmuch as this motion intimately mixes the food with the secretions, favoring absorption and forcing the food along from one segment of the alimentary canal to another. These movements seem to be under the control of the nervous system, and we have not found a secretin that influences the movements of the alimentary canal through the blood. Peristalsis, according to present conception, is a co-ordinate act. When there is contraction above there is relaxation below; so that the propulsion of food can be easily accomplished. When there is inco-ordination—that is, when the proximal segment does not relax—we have that condition which we recognize as colic (Meltzer). A peristaltic contraction means a contraction of muscle behind the bolus along with a relaxation of muscle in front of it. We thus find the stomach in a relaxed condition when the food is carried into it through the esophagus. The stomach remains quiet from half to three-quarters of an hour after meals. The secretion of gastric juice begins even before the food has reached the stomach.

To recapitulate, the acid gastric juice cannot permeate the mass of food in the fundus so that salivary digestion can continue in the stomach from half to three-quarters of an hour. It is well to remember that the movements of the stomach differ in its two parts. The tubular pyloric end receives the food from the bag-like cardiac end in contraction waves. The food is forced against the closed pylorus, and not being able to escape, is pushed back to be churned up again. In this way all the food is brought in direct contact with the pyloric mucous membrane. When the contents of the stomach have attained a certain degree of acidity the pylorus relaxes and allows a certain amount of the liquid to enter the duodenum. Acid in the duodenum closes the pylorus. Again, acid in the duodenum produces secretin, and this superinduces a free flow of bile and pancreatic juice. These secretions neutralize the acid chyme, and at this stage the acid in the stomach relaxes the pylorus, again allowing a definite quantity of gastric contents to enter the duodenum when suddenly the pylorus closes, due to the acid in the duodenum. The stomach waves continue whether the pylorus be open or not. If the pylorus be closed, the stomach waves continue to produce the mixing of its contents. The pylorus remains permanently closed as long as the duodenum remains acid.

32 Adams Avenue.

CONCERNING THE EFFECTS OF DUST ON THE HUMAN ORGANISM.*

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The problems of preventive medicine are the most prominent before the profession today. In most instances, the satisfactory solution of these questions is dependent, at least in part, on the co-operation of the general public and the municipal authorities. In order that this essential co-operation may be obtained, a knowledge of what is necessary must in a way become popularized for the general public through their medical advisers. That this may be brought about most effectually it then becomes desirable to call the attention of medical men from time to time to subjects with which they may be personally fully familiar and which may be of so axiomatic a nature to the well trained medical mind that it appears as though all must comprehend.

This is, I take it, the general object of this meeting, and I hope that you will pardon me for calling your attention largely to facts and conditions with which most of you are already well acquainted. Indeed, in discussing the harmful effects of dust on man, it is hardly necessary to have medical perceptions or training, for the disagreeable features are quite sufficient in themselves to indicate to even the very ordinary observer that such conditions must be inimical to health.

Dust was first recognized as a really important factor in the production and dissemination of disease by Pearson, who published his observations in 1813. Since this time each addition in bacteriology and the study of nearly all infectious and contagious processes in general has augmented our knowedge in this respect. Of late the attention of public health officials has been largely diverted to other and perhaps more important measures for the protection of the general health, as, for example, the study of water supply, the disposal of sewage, and more recently the control of food and especially of the milk supply. We now believe that it is time for us to again discuss the air which we breathe and to attempt to free it from dangerous and unnecessary elements which are obviously of very direct bearing on the health of all of us.

This question of dust and of relief from it, like all hygienic problems, applies chiefly to cities and especially to those where, from the nature and size of the community and its traffic, overcrowding is unavoidable, imperative and municipally desirable. As we shall point out later it is for these very reasons that the dust problem is most important for the city dweller and relatively negligible for those who live in the country or small towns where, however, it may appear in the nature of a simple discomfort.

It will doubtless be told you that the obstacles which lie in the way of the amelioration of the dust plague in great cities are enormous; but let us ask if they are any greater than those which we thought a few years ago prevented the securing of a large yet healthful water supply, or for the adequate disposal of city sewage?

Because up to now we have been able to exist practically without any organized relief from dust, let us not conclude either that it is innocuous or that it cannot be eradicated. The same arguments have in turn been applied to each step in the progress of practically every hygienic problem.

In the following brief paper I have attempted to hurriedly discuss but certain of the more obvious problems presented.

Dust enters the body through practically all its chief channels. The effects of dust on the skin, except for the disagreeable and unpleasant sensations, acts but very indirectly as a disease producer, though in those afflicted with ulcerative or eruptive dermal lesion, it may act as a secondary or predisposing factor of some consequence, particularly in infants where undoubted instances of tubercular infection by this route have appeared.

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*Read before County Medical Society, October 28, 1907.

Dust which enters through the digestive tract is relatively important, as bacterial and protozoal infections may be induced, and as early decomposition of food products is so favored. There is no doubt, for instance, that typhoid is largely disseminated in this manner in countries where open sewers, or even worse—open latrines—permit the dissemination of intestinal infections. In these same localities it is also the custom to expose food products in open stalls where every gust of wind may bring clouds of infected dust into contact with the food, much of which, as salads and other vegetables and fruit, are consumed raw. The constant prevalence of typhoid in Rome, Florence and Naples is thus largely explained. Practically the same conditions are described in the report to the surgeon-general of Vaughn and Read on the typhoid epidemic in our military camps during the Spanish-American war. But except for certain of these intestinal diseases, among which we must also include bacterial and amœbic dysentery, dust plays but a minor part in the production of infections by this route since this tract is ordinarily well calculated by nature to handle and physiologically dispose of all manner of foreign bodies, toxic or otherwise.

Dust as an exciter of ophthalmic disease is of some importance not only in causing the lodgment of foreign bodies in the conjunctival sac, but also since through its agency infectious processes are largely communicated. It is but necessary for one to study the records of the ophthalmic dispensaries here in town after successive windy days to convince as to this relationship, especially when epidemic types of conjunctivitis are prevalent. Perhaps it is going too far to infer that the specific infectious organisms are directly so transmitted, and to my knowledge this has never been proven; but the mechanical action of the dust on the eye so injures and lowers its resistance as to predispose toward infection. The fact that the bacterial element *per se* also has something to do with this conjunctivitis is indicated, since it arises much less frequently as a result of dust transmission in the less densely populated areas, as on the plains, where the amount of dust encountered is as great or greater than in New York City.

Beyond doubt the tract most frequently and most seriously diseased as a result of dust or dust transmitted infection is the respiratory tract. Beginning with the most external portion of this tract, the nasal passages, all of us are painfully familiar with the choriza which follows exposure to ordinary city dust. The mucosa of the nose becomes congested, turgid and swollen; a catarrhal exudate develops, and if long continued erosion of the cillia and epithelial cells occurs, followed finally by submucous fibrous hyperplasia. With the erosion of the cillia nature's chief defence against dust is removed and dust more readily penetrates to the lower air passages. Further, the ulcerated mucosa invites secondary infections of all varieties which may then penetrate to the lymph passages of the submucosa, whence the infection may be transmitted to all parts of the body. The relationship of this process especially to infection in epidemic cerebro-spinal meningitis is now well authenticated.

From the nasal cavities the same process extends downward into the larynx and trachea and eventually to the bronchi. In the lower passages an additional danger is presented, since the dust, together with such bacteria as may enter with it and such as is not normally thrown out with the mucoid secretion, lodges in the terminal bronchioles, setting up a chronic, oftentimes suppurative, inflammation with a microscopic bronchiotasis as demonstrated both experimentally and anatomically by the work of various investigators, particularly by that of Sänger.

The most serious lesions produced by the inhalation of dust occur in the pulmonary parenchyma. Observation in man and many experimental studies on animals, the most recent of which are those of Claisse and Josue, have shown that when dust reaches the alveolus, when not removed by becoming entangled in the mucus and so expectorated, it is taken up by the alveolar epithelium, which possesses a highly active phagocytic power and which may then become desquamated and expectorated. From these cells it may be transmitted to the leucocytes, to the cells of the connective tissue stroma, or it may lie loose in the supporting reticulum where, acting as a more or less irritating foreign body, it sets up interstitial hyperplasia, the activity of which is dependent on the nature of the irritant but which in extreme cases may even result in diffuse pulmonary fibrosis. In other instances the foreign bodies remain in the alveoli, causing epithelial erosion, ulceration and alveolar exudation from which scattered foci of pneumonia may extend.

Where the dust particles lodge in the small bronchi and remain there, as previously mentioned they set up inflammatory changes, hypersecretion of the mucus and finally dilation of the bronchi. In this way chronic bronchitis becomes a frequent condition in cases habitually exposed to dust, so much so that "dust breather's bronchitis" is a technical term in many occupations.

It is self-evident that lesions of this serious character in the lung tissue, changes which decrease the amount of functionating parenchyma, thus compelling emphysema, also greatly lower the natural resistance of the lung toward infectious processes. Statistical data show definitely that patients, the subjects of pneumokoniosis, are especially prone to attacks of acute bronchitis, to pneumonia, and to all other forms of pulmonary infection, but especially to pulmonary tuberculosis, as stated by many observers, notable among whom is Merkel.

Added to these changes in the lung tissue, which have at the same time decreased its functional possibilities and lowered its resistance against secondary processes, we have a great deposit of dust in the lymph nodes, through which courses the lymph supplied to and passing from the lungs and bronchi. As a result of this we find the pulmonary nodes usually increased in size and black with the dust deposited in them. The lymphoid structure in many cases becomes almost or entirely replaced by a growth of fibrous tissue of low vitality which may subsequently undergo either necrosis, cicatricial formation or calcification. When we consider the very important rôle which these glands play in the protection of the body from pathogenic organisms which enter through the respiratory tract, we can well appreciate the reason why in these cases lymphoid tuberculosis is the rule. Stengel states that these lesions may become so pronounced as to cause a reversal of the lymph stream. In my series of autopsies I have found tubercular lesions almost universally present where pneumokoniosis has brought about this condition in the lymph nodes, and in New York City they may be looked upon as constantly associated lesions.

These infected lymph nodes frequently become extensively necrosed and rupture, as noted by McFarland, and then the necrotic material, pigment, infectious elements and all is swept into the general circulation, not infrequently so causing embolism and infarction. The secondary foci so formed are commonly marked by pigment and such areas are often found in widely separated viscera, notably in the brain, spleen and kidneys.

Less frequently and in less degree these changes also occur in the spleen, and pigmentation, fibrosis and necrosis with occasional rupture is reported.

Not all varieties of dust are capable of inducing these various changes; it is only such as produce irritation and inflammation of the respiratory tract. The cowboy and farmer, for example, spend a large part of their working hours in an atmosphere laden with dust; the same is true of numerous other vocations, and yet these individuals suffer little or no serious consequence. On the other hand the coal miner, the miller, the metal grinder or polisher, the cotton worker and the citizens of most of our large cities show at necropsy, almost without exception, pneumokoniosis of such extent and nature as to have seriously impaired pulmonary respiration and to have greatly favored the inception of serious lung or general disease.

Entirely disregarding all those personal conditions which make certain individuals more or less resistant than others, it seems that the dangerous qualities of inhaled dust lie chiefly in two characteristics: one on the physical character of the dust, the other on its organic nature.

Numerous observations have shown beyond question that the physical form even more than the quantity of dust bears a very appreciable relationship to the character and degree of the lesions produced. Thus with very finely comminuted and light dust, such, for example, as that inhaled by the farmer or even the carbon inhaled by firemen, pitch-burners and the like, the resultant lesions of the lung are much more innocent and secondary pulmonary diseases are much less frequent as a result. On the contrary, dust which contains sharp-pointed and jagged particles, as encountered in certain forms of mining and in grinding occupations, inflammatory and irritative changes are much more constant and diffuse and secondary infections as with tuberculosis are more frequent, as shown notably by Hirt.

It is beyond the scope of this brief paper to discuss the many specific types of occupation pneumokoniosis, since to-night is particularly devoted to a special aspect of the condition in which we are all individually interested, though in passing I do wish to refer to the siderosis which Prudden, Larkin, Soper, O'Hanlon and others have shown to be so important a factor to those of us who use the subway frequently.

Dust which is chiefly injurious on account of its organic character is such as contains organisms or organic material which are prone to excite disease in the body. This class includes the most dangerous and best recognized types of pathogenic dust and is most familiarly illustrated by that which contains the dried sputa of tubercular subjects. It has long been admitted that this is the manner in which tubercular disease is most commonly inaugurated. Other infections undeniably so transmitted are those of anthrax, glanders, diphtheria, actinomycosis and bubonic plague (Albrecht ü Göhn.).

Of the more rare types of infection so produced, Kockel reports a case of aspergillus mycosis, Saxer of aspergillus fungoides of which v. Ritter reports another instance. Lukach reports like mould infections and v. Steiner, Pel and Eberson report echinococcus infection.

Obviously the dust which is most detrimental of all to the human body is one which combines the characters of both classes. The physical irritant sets up inflammatory and degenerative processes in the lung and lymph nodes, lowering the vital tone and predisposing to any sort of secondary infection which may originate from any pathogenic organisms found in the same dust or pre-existing in the respiratory passages.

This brings us properly to the subject with which we are chiefly engaged this evening, for such a dust as I have just described is typically that of all congested centers of human activity and especially of such cities as New York, where overcrowding, manufacture and great street traffic are obligatory. From a somewhat extensive autopsy service during the past ten years here in New York I feel very well prepared to give personal testimony as to the effects of New York dust on the body.

Pneumokoniosis is practically a universal condition in all adults who have lived in the city for any considerable length of time. Associated with this pneumokoniosis is a pulmonary fibrosis of greater or less degree, with a practically constant and more or less active bronchitis. In some eighty per cent. of instances tubercular lesions which are undoubtedly associated in origin with the primary lesions are also found. More or less anthracosis, fibrosis and necrosis of the adjacent lymph nodes are also persistently present. In practically every case the plexus of nodes at the tracheal bifurcation is chiefly involved, and in over ninety per cent. of these it is associated with tubercular and fibrotic foci. From this great prevalence of tubercular lesions we are not to conclude that other organisms are wanting in this secondary infectious process, for this is not the case, but on account of the specific character of the tubercle we are thus able to readily recognize these lesions while others, equally important, may have escaped gross observation.

Thompson has recently presented before the academy an excellent account of the composition of New York dust and even a cursory microscopic examination shows a truly wonderful array of pathogenic factors. Minute particles of iron and steel, eroded from thousands of wheels, from the shoes of horses and from car rails and brakes, particles of sand, stone, plaster and lime contributed by the erosion of the pavements and from the dust of repairing and building operations form but a basis for more dangerous materials. Glass is found in very large quantities coming from broken bottles and china ware thrown on to walks and pavements and ground to a fine but highly irritating powder under the wheels of heavy trucks and automobiles. Add to these wood fiber, cotton, wool, hair and all manner of vegetable material from tobacco to cocoa, and add to this the very abundant fæces of horses, hogs and cats, and in some instances the dried fæces and urine of man, and we have a truly rich material capable of inducing almost any sort of local or general infection. What results would we expect to obtain in a hospital ward or surgical amphitheatre where such a dust was allowed to accumulate? What must be the effect on the overworked and oft times ill nourished system? Of the pathogenic microorganisms which appear constantly in New York dust we must place the tubercle bacillus as probably the most important; next to it are found all manner of cocci, many varieties of colon bacilli and the bacillus ærogenes capsulatus which I have shown to be persistently present. A less frequent but possible infecting organisms are the bacillus of tetanus, which is found especially in certain portions of Long Island, glanders, diphtheria, anthrax, malignant œdema, and undoubtedly from time to time the bacilli of typhoid fever and of epidemic dysentery.

Such is the material which has at times lain inches deep in our streets to be blown with every gust into our faces and inhaled with every breath, to be scattered over fruit and vegetables exposed in the stall, or to lodge on our fish and meat as it is transported to and fro through our streets, often in open wagons.

It hardly seems necessary to go into more details, they are too unpleasant. Must we ask if such a material can cause disease? It is a wonderful and most striking tribute to the general hardiness or to the acquired immunity of New Yorkers that we have so little general epidemic disease as we do conveyed by this most efficient medium. Add to this dust that which collects so undisturbedly in many of our street cars and other public conveyances where certain human excreta are also allowed to gather and where the sun cannot reach. Could we readily devise a more efficient avenue for the general spread of all sorts of infectious diseases?

Those of us connected with the large city hospitals and dispensaries need no argument to convince us of a relationship between this dust and many disorders, particularly epidemic grippe, pneumonia, endemic tuberculosis and epidemic types of conjunctivitis.

Perhaps it cannot as yet be definitely stated that the dust in our streets bears a clear etiological relationship to pneumonia. It has not, to my knowledge, been shown that the pneumococcus is directly so transmitted; but at least we know for a certainty that dust of the character with which we are so familiar causes bronchial and pulmonary alterations which strongly predispose to all lung infections.

Neither New York nor any other city compared to it in size and traffic can prevent the formation of large quantities of dust; it is indispensable with conditions imposed by city life, and it is in no carping tone of criticism that this problem is being so freely discussed by the County Medical Society. It is, however, a factor of great importance in the production, particularly of pulmonary diseases in the city, and it is absolutely essential for the public welfare that measures be taken for the collection of necessary dust from the public streets and conveyances and that the production of unnecessary dust, as in many building operations, for example, be checked or prevented. We believe that this presents no more serious obstacles than have already been overcome in the establishment of municipal hygiene in other respects, and it appears to me that the medical profession of the city should so actively insist that conditions in this respect be at least improved that the proper steps be taken to this end at an early date. We cannot hope in busy New York to establish so nearly ideal conditions as are seen in the beautiful city of Munich or in our own Salt Lake City, but things can be greatly improved at least over such as existed during the greater part of last summer; in fact they have improved, but I believe that a properly organized system effecting both streets and public conveyances—one is nearly as important as the other—can and should be established at once.

CONCLUSIONS.

1. Dust in itself is productive of serious disease conditions, particularly of the respiratory and digestive tracts.
2. These primary conditions predispose to secondary lesions, particularly to pulmonary and lymphatic tuberculosis.
3. Many contagious and infectious diseases are transmitted through the agency of dust.
4. In a city the size of New York the production of large quantities of dust, often of a highly dangerous character, cannot be prevented.
5. Dust can in most instances be relatively, easily and economically collected and disposed of and the production of unnecessary dust can and should be prevented by properly framed and enforced regulations.

44 W. Ninth Street.

THE PROBLEM OF REGULATION OF A RURAL MILK SUPPLY.

By S. W. S. TOMS, M.D.,

Nyack, N. Y.

PREVIOUS to four years ago the community in which I reside had a most creditable quality of clean milk, the product of a dairy conducted by a public-spirited citizen as a hobby and to supply the townspeople with milk of much better quality and purity than they had been getting heretofore. This enterprise was in no way a profitable one, as his herd of milch cows were of selected stock and great expense was entailed in the erection of light, well ventilated barns having pure running water and sanitary stalls. The food was proportioned and selected by experts; the men were clean, the animals groomed, the utensils and containers sterilized, and the milk houses constructed and conducted on the most sanitary methods to maintain milk at its best in low bacterial count and pristine purity.

This milk found favor although sold at an advance of cost in contrast to that of other dealers. But strange as it may seem, this philanthropist was driven out of business by the petty annoyances of complaining housewives and servants, and the good things we got were soon replaced by a lower standard of milk from other dealers. This is suggestive in the fact that the public were lacking in elementary knowledge of what constituted *good milk*. A propaganda of education is essential to inspire public sentiment in favoring and enforcing sanitation in milk as it has in our drinking water sources and without it little can be accomplished.

The State Board of Health is constantly on the alert in the protection of our water sources; but for some inexplicable reason the milk supply, only second in its importance to our drinking water, has not received the watchful care the importance of the condition demands.

The ever-present infant mortality—more especially during the summer months—is still alarmingly high, about one-third of all infants die before the third year, the largest percentage of these succumb from digestive and nutritional diseases directly due to impure food of which milk is the main factor. This fact has been so well substantiated in its relationship to contaminated and unwholesome milk by Dr. G. W. Goler, the efficient health officer of Rochester, in his article "The Influence of the Municipal Milk Supply Upon the Deaths of Young Children,"[1] and by J. N. Hurty, secretary of the Indiana State Board of Health, who produced figures showing sixty-five per cent. (455,000) of the total deaths in infants in America last year was due to the poisons in impure food.[2]

Surely this is argument sufficient to demand public protection from our state and national authorities. I shall refer to this later on in my suggestions after relating the experience of a medical milk commission organized in Rockland County over two years ago.

After the dairy referred to discontinued supplying its customers I, with others of my colleagues, realized the seriousness of the situation in the lowered standard of the milk sold by the increase of intestinal diseases in children directly due to this cause. It was talked over in our County Medical Association meeting and a resolution adopted (see *N. Y. State Jour. of Med.* October, 1904) in July, 1903, the outgrowth of which was the Rockland County Medical Milk Commission—composed of the presidents of the two county medical organizations then in existence, all the health officers of the different county municipal boards of health, and a representative from the milk. dealers and dairymen of the municipalities in the county—the object being to improve the milk supply and adopt rules and regulations whereby it could be legally controlled by the health boards where it was found necessary. This was felt to be a public necessity for the protection of consumers, because it was reported that one herd of eighteen cows had been examined in the principal milk producing district of the county and fifty per cent. had been found suffering from bovine tuberculosis and were destroyed. The milk from this herd was sold to milk dealers who mixed it with the products of other farmers, thereby contaminating the entire lot bottled for distribution. A further consideration was found in the entire absence of any sanitary regulations whatsoever in the by-laws of boards of health whereby a standard of milk could be judged or a dealer held responsible for spreading contagious diseases by ignorance or carelessness through his milk. There was absolutely no protection for the public and no recourse could be had or punishment enforceable to the man responsible should an epidemic ensue through this source.

Three important considerations presented themselves to the commission:

First, the improvement in the milk supply; second, the protection of the public against the possibility of spreading infectious and contagious diseases through the milk supply; and thirdly, to have uniform by-laws adopted by the various municipal boards of health that would legally enforce rules and regulations whereby these objects could be obtained. This was forthwith undertaken and a set of these by-laws as formulated submitted to the commission at a special meeting and a resolution adopted accepting them and recommending each health board in the county to ratify and place them on their statute books. This was accomplished with the exception of three municipal boards, without even the formality of any member of the milk commission appearing in person at their meetings to urge the adoption of these by-laws. This was most gratifying, and we still hope the lagging health boards will yet fall in line. These suggestive rules and regulations which were to become official by-laws after acceptance were submitted to the State Department of Health at Albany, duly approved of by said department and recommended for presentation to the municipal boards of health for their action.

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[1] Read at the annual meeting of the New York State Medical Association at New York City, October 19, 1903.

[2] Meeting of the National Association of State Dairy and Food Departments, Chicago, Ill., April, 1905.

REGULATIONS AND RULES FOR THE PRODUCTION AND SALE OF MILK IN ROCKLAND COUNTY, NEW YORK.

1. No person shall sell or exchange, or offer or expose for sale or exchange, any unclean, impure, unhealthy, adulterated or unwholesome milk or cream, or any article of food made from such milk or cream.

The term "Adulterated Milk" shall be construed to cover milk containing more than eighty-eight per centum of water or fluids; or less than twelve per centum of milk solids; or less than three per centum of fats; or drawn from animals within fifteen days before or five days after parturition; or drawn from cows kept in a crowded or unhealthy condition; or milk which has been diluted with water or any other fluid; or to which has been added or into which has been introduced any foreign substance whatever; or milk that contains a higher bacterial count than 50,000 germs per cubic centimeter; or at a temperature above 55° F.

2. No person shall deliver, sell, offer for sale, or have in possession for the purposes of sale, any milk or cream in glass jars, unless said jars have been thoroughly washed and cleaned before being last filled; and no person shall keep milk or fill jars with milk in any barn or stable or on any public street or place.

3. No person shall keep milk in a living or sleeping room or in any room that is not kept clean at all times, or in which the plumbing is not constructed in accordance with the plumbing code of the municipality; or keep milk in any cans not made of well-tinned iron with inner surfaces smooth and free from rust; or fail to report to the health board any case of contagious diseases on the premises where milk is produced or sold; if the cellar is used for storage purposes that portion shall be partitioned off and used for no other purpose, and shall be properly ventilated, lighted and dry.

4. *Handling, Care and Marketing of the Milk.*—Remove the milk of each cow from the stable as soon as drawn, to a milk-room where the air is pure and sweet. Milk cans must not be filled in the stable or be there for any purpose. The milk must be strained through a metal gauze and flannel cloth or layer of cotton, as soon as drawn, aerated and cooled as soon as strained. Cool as rapidly as possible—at least within fifteen minutes after being drawn—to a temperature of fifty degrees or lower. In hot weather bottles should be packed in ice during delivery. Ice must not be placed in milk, and the milk should not be allowed to freeze. No preservative or other substance shall be added to milk for any purpose, and no part of the milk shall be removed. All utensils used for filling jars shall be scrupulously clean, and milk spilled in the process of filling shall not be put into them. No milk shall be sold which is more than twenty-four hours old. Delivery wagons shall be cleaned frequently, and during warm weather the inside shall be washed daily. No empty bottles, milk tickets or checks shall be taken from houses where any contagious disease is known to exist. After the removal of the quarantine the bottles and all tickets and checks in possession of the family or families shall be collected by some other than the person delivering the milk to the families, and by vehicles not used for the purpose. All tickets in possession of the family shall be taken up and exchanged for new ones. Tickets taken from premises where contagious disease has existed must be burned and the bottles sterilized by boiling for 30 minutes, or steamed before being put into service again. All tickets, checks and labels shall be new when delivered to customers, and none shall be used a second time.

5. *Care of Stables and Cows.* The stables shall be well ventilated, lighted, drained and dry. They shall be whitewashed at least twice a year. The trenches shall be cleaned at least twice a day during the stabling season; the manure to be at once removed from the stable to a distance of at least one hundred and fifty feet.

The cows used for the production of milk shall not be housed in any barn or portion of a barn used for other animals, fowls, etc.

No hay or dusty forage or bedding to be shaken up, fed, or distributed in the stable until after the cows are milked. The cows shall be supplied with plenty of pure, wholesome water, and their flanks and tails shall be kept free from all excreta. The udder shall be wiped off thoroughly with a damp cloth immediately before milking.

No milk shall be sold from a sick animal or from one suffering with a contagious or infectious disease. It shall be unlawful to buy or sell an animal for the production of milk who is suffering from a contagious or infectious disease.

6. *Permit to Sell.* No person, persons, or association shall sell, offer or have for sale any milk of any kind or description in any quantity whatsoever, within the limits of the county or muni-

cipalities without first obtaining a license from the local boards of health.

A license fee of two dollars shall be charged for each license issued.

Such licenses shall expire on the first day of May next after issue, but no such license shall be issued without the applicant having first obtained a permit from the Department of Health to engage in the milk business pursuant to the provisions of this ordinance.

This section shall not apply to storekeepers who do not peddle milk, but dispense the same solely upon their premises, provided such milk is obtained from a duly licensed milk dealer, and kept at a temperature of 50° F., and otherwise conform to requirements and regulations.

No licensed dealer shall furnish milk to be sold by any storekeeper unless said storekeeper complies with all the provisions of this chapter governing the sale and sanitary protection of milk, and such sale may be forbidden at any time by the health officer in the interest of the public health.

Each and every such license and permit shall expire on the first day of May next after its issue, and every violation of the provisions of this section shall subject the person, persons or association violating the same to pay a penalty of not less than ten nor more than fifty dollars.

7. Every dealer in milk who uses in his business a wagon, cart or other vehicle shall, during the months of May to September inclusive, have and keep upon said wagon, cart or other vehicle, a covering of canvas or other material so as to securely protect the contents from the rays of the sun, and every such dealer shall, during the months of June, July and August, carry in such vehicle a sufficient quantity of ice to prevent heating of the milk. Said covering shall be a clean tarpaulin, and not a blanket, etc.

Nor shall any dealer in milk or his agents serve milk in bottles to any dwelling that has in it any contagious disease, or that is placarded by the Department of Health for contagious diseases until said placard has been removed by the proper authorities.

Milkmen violating the ordinances governing the sale of milk shall forfeit their licenses.

All dairy utensils, pails, dippers, cans, bottles, everything in fact into which milk is put directly, shall be cleaned by first thoroughly rinsing them in warm water; then cleaning them inside and out with a brush or cloth and hot water in which some cleaning materal has been dissolved, then rinse and sterilize with boiling water or steam. Use only pure water. After cleaning utensils keep them in a clean place away from dust and in the season of flies covered with mosquito-netting. Tin utensils in which parts of the tin are worn off should not be used. Sterilize brush and cloths used for cleaning by boiling daily, and oftener if necessary. Sponges for cleaning utensils must not be used.

Milk Inspectors. The milk inspector's first duty after appointment shall be to visit each dairy, retailer, milk market, milk depot and all other places where milk is produced or handled for human consumption in Rockland County, and present to the owner or proprietor of such places a copy of the rules and regulations adopted by the different boards of health, also a blank application for license.

The inspector shall make note of any conditions which are not in accord with the standard requirements, and transmit the same to the commission, together with any suggestions for their correction.

The inspector shall give every cow or other bovine animal over six months old, at each dairy visited, a physical examination, and if upon such examination he is suspicious of tuberculosis or any other infectious or contagious disease, general or local, being present, he will at once report the same, with the name and address of the owner to this commission and to the Department of Agriculture at Albany.

The inspector shall keep in a book for the purpose a correct account of all animals examined for future reference.

Inspectors, before entering upon ther duties, must be provided with a "Feser's lactoscope" or other suitable apparatus for making optical tests; these tests must be made at each dairy, and the inspector may take therefrom samples properly sealed and labeled for analysis.

In as far as possible, it is deemed advisable that the inspector will make his visits to the places requiring his attention without the knowledge of the owner that he is coming, and he shall be allowed access for this purpose at any time.

It shall be unlawful for any milk inspector, his servant or agent in the County of Rockland, to wilfully obstruct or assist in the violation of any rule or regulation adopted by the Rockland County Milk Commission or the Health Boards of the county. And whoever hinders, obstructs or interferes with any milk inspector or his servant or agent in the performance of his duty shall be guilty of a misdemeanor.

Inspectors are hereby empowered to enter any or all premises, vehicles of all kinds used for transporting milk, barns or stables used for housing bovine animals, milk houses, milk rooms or cellars used for keeping or storing milk, at any time for the purpose of examination of cows or other animals, sanitary conditions of buildings, feed, water, utensils used in handling milk, care of same while being drawn, stored or en route to wholesaler or consumers, to see that the rules and regulations of boards of health are being complied with.

All tuberculin tests shall be made under the supervision of an inspector, and the results reported at once to this commission of the Board of Health of the municipality.

Inspectors must familiarize themselves with the location of dairies, milk markets, milk depots, or other places where milk is produced or handled for human consumption, and visit the same as often as required, at least twice in each year, to see that the rules and regulations of the Health Boards are complied with.

Inspectors are at all times responsible for their acts to this Commission and Health Boards who appoint him or them, and before entering upon their duties must file a satisfactory bond.

In formulating these rules and regulations the Sanitary codes of Rochester, Buffalo and Oneonta were consulted and freely drawn upon but modified to suit our local conditions. In this I was most ably assisted by a prominent local veterinary surgeon, Dr. H. W. Boyd, and the able secretary of the old Rockland County Medical Association, Dr. J. Howard Crosby of Haverstraw.

Up to this state the progress of the undertaking seemed most propitious. Even one of the county supervisors voluntarily offered to use his influence in securing a financial appropriation to assist in meeting the necessary expenses incident to instituting the work.

All the medical milk commissions up to this time had as their object the selecting of an intelligent farmer who could establish himself in an improved dairy business and produce a "certified milk" for family use. None took upon themselves the influencing of legislation.

As there were no farms or buildings available nor a man with sufficient capital or enterprise in our locality to embark on an enterprise of a modern dairy to produce "certified milk," the commission exerted their efforts along the lines I have related as it seemed the only avenue of approach to the situation.

Such apparent encouragement from all concerned was to me most gratifying, and it seemed as if the objects sought for would be an assured fact for the following season. Up to this point few obstacles or objections were encountered. We had a special meeting at our county seat following our regular County Medical Society meeting in which we interviewed some of the members of the Board of Health of Clarkstown, in whose jurisdiction much of the milk that is sold in Nyack by dealers is procured, to which one of the members objected on the ground that some of his neighbors had one or two cows and derived an income thereby which was a very necessary help in supporting a family, and these regulations would not only be a hardship for the man, but in some instances compel him to sell his cow or cows. It is a fact this class of milk producers is the greatest menace to health from contaminated milk that exist in any community to-day. This auxiliary to the maintenance of a family is usually purchased from some farmer who has found the animal not profitable as a milker and tacks up a sign on his gate post —"Cow for Sale." The inspiration is born in the workman's mind as he passes the sign on his way home that if he can "raise the wind" it would be a good thing for the little ones at home to have fresh milk, and besides he could sell enough among his neighbors to pay for her keep. He suggests it to his thrifty wife, who volunteers to do the milking and help to take care of the cow when she is not out washing and can steal enough time from caring for the family. The cow is purchased for a few dollars and the death dealing process is begun. The cow being unhealthy, or too old for a profitable milker, is fed on all kinds of slops and unwholesome food; the improvised barn is always filthy as are the animal's flanks; she is poor in flesh and the food necessary for good milk is not supplied. She drinks stagnant water, lives in cramped, unlighted quarters, and what is the result? Possibly tuberculosis is spread. diarrhœa and malnutrition affect the children who drink the milk; and should the man's children have a contagious disease a whole neighborhood is likely to become infected very speedily. This is the man whom the good-hearted member of the health board thinks it his duty to protect from health laws and having a sanitary milk produced in the locality in which he lives! Would it be so regarded if one of his family were to become a victim?

Another municipal board of health, whose chairman is a member of the board of supervisors of the county, had the board adopt the rules and regulations, omitting the license and penalty clauses, thereby nullifying the entire by-laws.

I have found generally that dairymen are sufficiently appreciative of unsanitary milk, as it is not profitable, and will try to get the farmers to produce as good a quality and as clean milk as possible. They themselves in most cases are clean in their methods of handling, bottling and caring for it. However, they do not make the necessary endeavor to keep it at or below a safe temperature after it leaves their milk houses during the delivery to customers. Some, in fact, are so careless as to use dirty horse blankets or old, filthy bed quilts to cover their cans and bottles. Some have been seen filling bottles in their delivery wagons. Many of their cans are rusty and cannot be made sanitary; but most of the infection of the milk is introduced by the milker. He is not clean, his pail has not been sterilized and is so open it catches falling hairs and particles of excreta adherent to the animal's flanks which are shaken off during milking and fall into the pail. The hands of the milker or the animal's udder are not washed beforehand, and often the animal is eating dusty fodder that adds to the contamination of the milk. The milk is rarely cooled quickly enough after it is produced and the bacterial life multiply very rapidly, which no straining and after care can purify.

Not only does the farmer need the necessary information imparted to him of the dangers of these conditions and of others that could be detailed if time permitted, but also the customer who buys the milk. Servants are negligent and very careless in the care of the milk after its delivery. It is often allowed to stand on the porch, sometimes in the sun, until it gets warm, or permitted to freeze before it is taken into the house. And even then it is rarely taken at once to the refrigerator. I often see open milk bottles standing on kitchen tables during the breakfasting of the family. In fact, servants seem possessed to have open milk bottles in a hot kitchen at every meal. This is often enough cause to change the chemical quality of the milk and upset a child's stomach—especially so if the milk is not sanitary when delivered. Those of us interested in our milk commission, in achieving some showing as the result of our labor, have encountered much apathy and discouragement from those we expected would take an interest in our movement.

It has been impossible to get a quorum at a meeting since the adoption of the rules and regulations. I have personally on several occasions suggested to some of the members the desirability of following up the effort instituted over a year ago. One of the officers remarked "the milk question was a joke." Several of the health officers actually were opposed to the question fearing the retaliation of patients engaged in the milk business.

A resolution was passed at the spring meeting of the Rockland County Medical Society stating it was the sentiment of the society that the rules and regulations governing the milk supply which had become by-laws by enactment of the municipal health boards, should be put in force on May 15, 1907; and the secretary requested this in an official letter addressed to each of the several presidents of such boards. Some of these did not reply; some wrote asking information, as they knew of none on their statute books; and none of them took steps in any way to improve matters which have been exceedingly bad all summer—so much so that some of our citizens appealed to the State Department of Health and through it to the State Agricultural Department. Milk was delivered in Nyack during the summer on successive days sour and putrid in the bottles at delivery. Complaints to the dealers brought no help. They are dairymen buying their product on the open market from farmers in the vicinity in which they live. The producers were in the main responsible, although it would be most difficult to convince them of the fact unless by means such as the New York City Board of Health adopts at present in refusing all milk for transportation that does not conform to their standards of purity and quality. Two years ago I made a personal inspection of a number of dairies selling milk to local milkmen with the following results:

REPORT.

Dairy No. 1.—Five cows; milk sold, eighteen quarts; stable very poorly lighted, and no ventilation excepting when door or windows are opened. Two horses are also kept in same barn alongside of cows, all very closely crowded together. Condition of stable exceedingly dirty and emits strong odors of animals. Manure allowed to accumulate on floor. Animals' flanks covered with dried excreta. Hides never groomed or udders cleaned before milking. Water for animals is obtained from a cistern in lower part of stable collected from roof of the barn. The yard is covered with manure and stagnant water close to the stable. The milk is not cooled at all, excepting in hot weather. Taken from the barn to the house, some distance away, it is strained and immediately delivered to customers in tin cans, retaining the animal heat. The utensils are taken care of by the housewife in as careful and cleanly manner as is necessary. Night milk is set in pans on a shelf in the cellar without being cooled, and is exposed to odors of vegetables and foods usually kept in a farmhouse where no refrigerator is used.

In summer the milk is cooled with pump water. This milk is sold to a number of select families, principally because it is considered "good farm milk fresh from the cow."

Dairy No. 2.—Cows in service, twenty to twenty-five; milk sold, ninety quarts daily. Cows look in poor condition; are found in a large stable yard completely filled by the winter's accumulation of manure, banked high around the sides of the stable, the basement of which is used for two rows of stalls, with a central passageway for feeding. This stable has absolutely no light on three sides, or ventilation, and the roof, being the main barn floor, is but a few feet from the animals' backs, covered with dust and cobwebs. The barn floor where the animals are stalled is vilely dirty; the flanks and tails of the animals covered with masses of dried excreta; no grooming or cleaning of udders is ever done, and milkers do not wear protectors or wash their hands. Milk cooled in tub of water after being collected in the stable and strained, and can immersed in a well 200 feet from house. Milk utensils appeared to have been fairly well taken care of. Night and morning's milk sold to dealer, who takes every precaution after it reaches him by further cooling with ice, strained again, and bottled.

Dairy No. 3.—At present only two cows; selling ten quarts of milk, which is cooled in a stream of water, afterwards taken to the house, where it is kept in a cellar and sold from tin pails to customers some miles away. The animals are stabled in the basement of a barn, with horses, pigs and fowls, and a dirtier place could hardly be imagined. The stench from the mixture of odors from the combination was beyond endurance, yet the milking was done in this stable, where sunlight and air were almost strangers, and where the state of the animals was scarcely more inviting.

Dairy No. 4 comprises about fifteen well-kept cows, producing between eighty and ninety quarts of milk for sale, besides what was fed to calves and used in the household. The barn is new, built for the purpose, well lighted and ventilated. The cattle are well fed, and the manure pile is a respectable distance from the barn. The well is a reasonable distance from dangers of surface drainage. The milk is cooled immediately and placed in the well until taken to the dealer. Cans are properly cleaned. Only one thing was lacking to make this an up-to-date dairy, and that is keeping the cows' flanks and tails free from accumulated excreta and grooming the hides, cleaning off the udders and not allowing the animals to feed while being milked to raise unnecessary dust. The stalls might with reason be also a little better kept. Otherwise this man's herd was very good. He took me to see his horse stable in an adjoining building, where the animals were well groomed and the stalls and stable in splendid condition. I wondered if he would like to drive one of those manure-plastered cows to his well-kept carriage! Yet the care of his cattle's skins is infinitely more important than grooming his horses.

None of the cattle anywhere I have seen have been inspected for tuberculosis within the knowledge of the owners.

Through the courtesy of Mr. H. H. Law, Briarcliff farms, I was invited to visit and inspect a celebrated dairy farm where over 1,300 cows are kept for dairy purposes. The details of my visit, although interesting, would prolong this paper beyond a reasonable length. Let me say, however, that nothing is done there that is not possible to carry out in well-kept dairies. The keynote is absolute cleanliness. The barns are kept clean, the cows curried, the udders wiped with a damp cloth before milking, the men put on overclothes and caps and wash their hands, which is repeated after every cow is milked. The cattle are not allowed any dry feed during milking, and no one is allowed inside the cow barns while milking is being done. This milk is strained after collected from each cow into a larger can, which is immersed in ice-water. The strainer is several folded pieces of cheesecloth and absorbent cotton, which is washed and boiled and used but once. The milk is taken to the bottling house and there bottled under the strictest sanitary and sterile conditions. Each week a sample from each barn is examined by the chemist and bacteriologist of the New York City Milk Commission of the County Medical Society and, if more germs are found in it than are wholesome, and the superintendent is unable to eliminate the trouble in three weeks, he is dismissed as incompetent.

This milk brings 15 cents per quart on the New York City market, and the demand is greater than 1,300 cows can produce on 6,000 acres of land.

I am satisfied the solution of the problem for us living in a district similar to where I am located is in the efforts of a sanitary league, composed of interested citizens who will take up the matter in a public spirited way and deal with it as so many of the village improvement clubs do the neglect of local village ordinances and delinquencies which would be a standing menace and disgrace to the community where such exist. They must see the health boards enforce their sanitary rules against the abuses of sanitation in all things.

The City of Yonkers, I am informed, has such an organization. They are interested in a propaganda against the spread of tuberculosis. I respectfully commend the milk question to their earnest consideration.

The pure milk propaganda must not stop in its education short of all that concerns the customer and user alike, as well as those more concerned in its production and marketing.

THE MICRO-ORGANISMS OF THE MOUTH.

By Eugene F. McCampbell,

Columbus, Ohio.

It is a well-known anatomical fact that the mouth, or buccal cavity of all human beings, is lined with a mucous membrane composed of a particular type of cells known as stratified squamous epithelium. Into this cavity the secretions from the parotid, submaxillary and sublingual glands are emptied. The mixture of all these secretions constitutes the saliva. The saliva is neutral or faintly alkaline in reaction and is composed of various organic and inorganic constituents. Water and certain salts are the inorganic substances present, and mucous, serous fluids and an amyolytic ferment called ptyalin are the principal organic compounds. This ptyalin has the power of changing starch into sugar. It is said that the conversion of the starch into sugar by this ferment is favorable to the growth of bacteria. Furthermore, the stratified squamous epithelium lining the mouth is continually being desquamated or thrown off, and this furnishes excellent nitrogenous food for the bacteria which might be present in the mouth.

The teeth, thirty-two in number, are bathed in the saliva all the time. There are always present in the mouth numerous folds in the mucous membrane, and these, together with the spaces between the teeth, serve as lodging places for various particles of food which are kept constantly moist by the saliva. The temperature of the mouth is relatively high (98.6° F. or 37° C.), and it is at once evident that a better place for the incubation and propagation of bacteria could not be found anywhere. We have here the main prerequisites for bacterial growth, namely, moisture, heat and organic food. It may be stated that the last-named prerequisite, the organic food, is absolutely essential.

We may say at the outset that we find in the average mouth a large number of species of bacteria of all classes. There are present certain of the saprogenic or putrefactive bacteria, the zymogenic or fermentative bacteria, the chromogenic or color bacteria, the aerogenic or gas producing bacteria, and the pathogenic or disease producing bacteria. One author describing the bacteria in the mouth says that almost every organism which has been described in any position has been found growing in the mouth.

The question naturally arises as to how the various species of bacteria get into the mouth. It may be stated briefly that they are usually taken in by inhalation, by food and by drink. They may be introduced indirectly by being inhaled through the nose and also post nasal discharges containing bacteria may easily find their way into the mouth.

There are a great many bacteria whose presence in the mouth is accidental, and there are a large number which are found rather constantly in the average mouth. To the latter class of organisms the name "mouth bacteria" has been given by certain authors.[1] As far as is known these bacteria produce no deleterious results on the body. It might be stated in addition that as yet bacteriologists have been unable to cultivate these "mouth bacteria" and consequently little is known about their biology.

A brief review of the common bacteria of the mouth may be advantageous.[2]

1. Leptothrix buccalis. This organism is the one which is supposed to have been seen by Anton von Leeuwenhoek and described by him as animalcules in a communication to the Royal Society of London in 1683. It is commonly found in the soft whitish-colored deposit on the teeth and is found practically in all mouths in varying numbers. This organism varies in length from short to long threads and in width from .5 to .8 of a microns.[3]

2. Bacillus buccalis maxima. This organism appears in filaments and tufts from 25 to 150 microns in length or singly, the single rods being from 3 to 10 microns long and 1 to 1.5 microns wide. This is the largest bacterium found in the mouth.

3. Leptothrix innominata. This organism is found on the soft mucous deposits on the teeth and grows in thick straight filaments.

4. Spirillum sputigenum. This organism occurs normally in the mouth, but can be obtained in almost pure culture from the margin of inflamed gums. This bacterium is very similar to the spirillum which causes Asiatic cholera and by some is supposed to be the same[4] organism growing under different conditions and having its virulence modified and lost as a consequence. It is probably not the same bacterium. Spirillum cholera Asiatica can be

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[1] Miller, "Microorganisms of the Human Mouth."

[2] For descriptions and terminology we are indebted to Miller.

[3] Micron, 1-25,000 of an inch.

[4] Lewis and Klein.

easily cultivated while it is absolutely impossible to cultivate spirillum sputigenum.

5. Spirillum dentium. This form of bacterium is frequently found under the margin of the inflamed gums in gingivitis. It grows in long filaments and stains with the ordinary bacteriological stains very irregularly.

6. Micrococcus vaginatus. This round bacterium occurs in large numbers in all unclean mouths. It occurs in pairs and fours (diplo- and tetracocci). It occurs singly and in chains of 8 to 10 cells, in which case a sheath surrounds the chain.

Besides the foregoing there are certain bacteria which have been cultivated. Miller has isolated a large number of species, but it may be stated that their identity has not been completely established as yet.

Leaving out of consideration those which are perhaps not so interesting we will call attention to some of the pathogenic or disease bacteria which have been isolated from the mouth.

1. Micrococcus pneumoniæ. This organism is also known by a variety of other names such as micrococcus of sputum septicemia, diplococcus pneumoniæ, bacillus septicus sputigenus, streptococcus lanceolatus, etc. It is a round form of bacteria which very often occurs in pairs and tetrads. This is the bacteria which causes ordinary pneumonia. The organism has been repeatedly found in normal throats and mouths[1] and has been isolated from drinking cups[2] which were evidently contaminated by contact with the mouth.

2. Staphalococcus pyogenes aureus.

3. Staphalococcus pyogenes albus.

4. Streptococcus pyogenes.

These round bacteria are the common pyogenic or pus bacteria. They are frequently found in the mouth although not constantly present. The streptococcus pyogenes may under certain conditions produce erysipelas or septicemia. The staphalococci produce pimples, boils, carbuncles and the like.

5. Micrococcus tetragenus. This bacterium is a round form and is frequently associated with tubercular processes in the body, can produce pus and is pathogenic to the lower animals.

These are the common pathogenic which are found in the mouth. A great many more have been isolated which are pathogenic to the lower animals and produce some of the changes in carious teeth.

The pathogenic bacteria which occasionally find access to the mouth are as follows:

1. Tuberculosis or consumption.
2. Diphtheria.
3. Glanders, common among horses. Known as "hostlers' disease" in man.
4. Tetanus or lock-jaw.
5. Friedlander. Causes pneumonia.
6. Influenza. Causes "La grippe."
7. Pyocyanea. Causes "blue green pus."

There are, in addition, certain fungi which occasionally produce pathogenic conditions in the body. They are as follows:

1. Actiomyces bovis and hominis. Ray fungus. Causes "lumpy jaw" in cattle. Usually fatal to man.
2. Odium albicans or cerivesiæ albicans. Causes thrush, especially in children.
3. Saccharomyces cerivesiæ. Ordinary "brewer's yeast." Fermentation in body.

Formerly fermentation was not associated with any bacterial process whatever, but now we know that no putrefaction or fermentation can take place without the agency of microorganisms. In the mouth the zymogenic bacteria act on the carbohydrates and produce, as end products, organic acids. The origin of the process of decay of the teeth depends on this process. Many of the mouth bacteria have the power of producing an acid reaction in the mouth. The principal acid produced is lactic acid. One of the organisms which is prominent in the production of this acid is the bacillus acidi lacti. This is the bacterium which causes the souring of milk and in all probability is introduced into the mouth in milk.

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[1] Reudiger, *Journal A. M. Ass'n*, Oct. 13, 1906.

[2] McCampbell, "The Public Drinking Cup," *Ohio Naturalist*, March, 1907.

Among the processes which take place repeatedly in the mouths of all individuals is caries or the decay of the teeth. The subject of caries has been studied by physicians and dentists for centuries. There are many theories as to the cause of this condition. The foremost is the chemical and parasitic theory which can be briefly described as follows: The theory holds that decay results primarily from the action of the organic acids produced by bacteria on first, the enamel; second, the dentine and pulp, and that as soon as the dentine is softened that the various putrefactive and slightly pathogenic bacteria may infect the tooth and cause its rapid disintegration and decay.

It will be recalled that the crown of the tooth is covered with enamel, which is the hardest tissue in the body. Underneath the enamel is the dentine which is the principal constituent of the tooth. This substance is traversed by small microscopic tubulæ which run parallel to the long axis of the tooth and are filled with pulp and empty into a central perpendicular cavity known as the pulp cavity. The acids produced by the bacteria dissolve the enamel changing it into a cheesy mass. When the cheesy mass is washed off, as it is by the saliva, there is a slight excavation usually produced in the underlying dentine which serves as a lodging place for the bacteria which produce the decay. The dentine is next decalcified or softened. It is an interesting observation that it takes longer for the bacteria to produce a complete change in the soft dentine than it does in the hard enamel. Once the dentine is softened the bacteria follow the tubules and enter the pulp cavity destroying the tissue as they go. It is even possible after this stage is reached for various pathogenic microorganisms, such as the pus bacteria, actinomyces, etc., to effect an entrance through the carious portions of the teeth and produce a distinct condition in the body.

In conclusion, a word must be said in regard to the origin of certain digestive disturbances. In all probability a large percentage at least of the fermentation and putrefaction which goes on abnormally in the stomach and intestines which is known as indigestion, dyspepsia, etc., is caused by bacteria which have been swallowed with the food and have come from the mouth.

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SOME INCONSISTENCIES IN WOODRUFF'S BOOK "EFFECTS OF TROPICAL LIGHT ON THE WHITE MAN."

As the effects of sunlight in health and disease is a timely theme and this book apt to be accepted by some as authoritative, we wish to call the attention of the medical profession to some inconsistencies appearing in the book.

There is a mass of argument given to substantiate this, the seductive theory that tropical light is destructive to the white man; that only brunettes can exist in the tropic zone; and while it would be impossible to give space sufficient to controvert all of the arguments, sufficient can be given to the citation of some points which it appears to us were either overlooked or ignored, inaccuracies and inconsistencies which may be corrected in a subsequent edition. It will not be amiss to state that the book should be rewritten, as the subject is one of great interest and calculated, if shorn of its inaccuracies, to be of service to all students of science.

The book deals with blondes and brunettes, chiefly those of culture races. Now, a true blonde must have light hair, complexion and eyes, while a true brunette the reverse—dark hair, complexion and eyes. Since the great majority of the culture races are neither one nor the other, the author was bound to run against innumerable difficulties in establishing his theory, and cunningly devised loopholes will hardly save him. Let us cite some examples:

The Carthaginians were a pure Mediterranean race, descendants of the Phœnicians, who had dwelt along the sea from time immemorial. Their blood was pure, for the hybrids sprung from intermarriage with the Africans or Libyans formed a separate caste, the Liby-Phœnician. It was proverbial that the Carthage woman was a blonde, at least as far as her hair was concerned, though her skin and eyes were probably dark. She could not have been a dyed blonde, for the ancients were familiar with the woman who dyed her hair with henna and who could not have been confounded with a natural blonde. A fact like this upsets the whole theory that the *homo Mediterraneus,* the prehistoric dweller along the shore and the islands of the Great Sea was inevitably a brunette from centuries of exposure to subtropical light.

The Hebrews, a Mediterranean race closely allied to the Carthaginians and Phœnicians, are believed to have had a blonde element even from biblical times; otherwise it would be impossible to account for blonde and red types among the Jews, who settled thousands of years ago in north Africa, Arabia, etc. While some anthropologists have claimed that the blondness of the Jew varies directly with the blondness of the natives among whom they dwell, Virchow found the exact reverse for Prussian Jews, as did Schimmer for the Austrian.

If we go to the other extreme, viz., subarctic regions, we find the purest blondes—Scandinavians—living in close proximity to the medium pigmented Finns and the mostly swarthy Lapps. All these races have occupied their present habitat since prehistoric times.

Woodruff does not give enough prominence to intermarriage in accounting for mixed types between the blonde and brunette. Admixture of races has heretofore been held sufficient to account for such differences; but Woodruff, in his desire to exploit his light theory of pigmentation, seems to believe that intermarriage implies certain extinction of the hybrid. His theory of the prehistoric conquest of Europe by blonde Baltic Aryans, who, however, soon became extinct save in climates like those in which they had evolved, is strikingly like the Norman conquest of Europe in historical times, although he does not mention the similarity. Yet there is doubt as to whether these Norman conquerors were pure blondes. Some of the pirates who ravaged Ireland's coast were dark (dubhghaill or dark foreigners). Popular tradition, if nothing more, makes the Norman conquerors of England darker than the Anglo-Saxon, and a dark Englishman of the present day will make of his complexion a badge of Norman descent. The true theory of pigmentation will be that which considers both the effect of solar light and blending of races together with individual personal characteristics and other minor elements. We have never seen an account of what became of the hordes of negroes who were in Rome and southern Italy at the breaking up of the Roman Empire. No mention of an exodus is made in any work which we have consulted. They must therefore most of them have remained to assimilate with the natives, and this fact may account for the vast swarthy, curly headed, superstitious people who now inhabit southern Italy. Hybrids degenerate but do not die out.

Woodruff's theory of the power of light as a supreme element in incapacitating man from the higher activities must receive a check through many facts in history. A single instance may suffice. Instinct leads a man, according to Woodruff, to avoid direct solar rays, and yet the great Hannibal, who was master of the practical knowledge of his day, had a proverb that "shade was made for women alone," and marched his army through the broiling sun even when shade was available. Yet it was with these troops that he lived in a hostile country, surrounded by enemies for sixteen years, living chiefly by forage, to finally withdraw them to their own country.

The study of pigmentation in America, says Woodruff, is so unsatisfactory that he is forced to conclude that the country even including its aboriginal period, is too recently settled to have evolved stable types of complexion, etc.

We may rightfully suppose that the colonists from the British Isles contained a preponderance of blondes, and that to [illegible] Woodruff's theory, they represented a wave of Aryan restlessness and protestation. [illegible] it is a curious fact that while we find plenty of blondes, some with dark eyes in the sunny South, Maine, a country which should conserve blondness, is full of dark people. This may be said of New England in general, not only of the cities, but even the rural districts in which blondes are supposed to flourish. "Black Dan" Webster has many counterparts in New England today, and may even be said to represent a common type. There are plenty of men in Maine of pure Anglo-Saxon stock who are dark enough to give rise to a suspicion of Spanish, Indian and even negro blood. [illegible] type of eye of the New Englander has long puzzled anthropologists. It is not [illegible] dark, but often has a barbaric expression. It has been compared with the Gipsy eye and forms a link of evidence for those who claim that the rural New Englander is evolving a type like those of the red man. There is no possibility of an admixture of blood, nor can exposure to solar rays explain it. There were no primitive brunettes to persist and retain their individuality in a period of subjugation.

Woodruff is led, in the interests of his theory, into a ludicrous misstatement when he pictures the soldier who made up the conquering Roman legion (until the climate had killed him off) as a blonde Aryan never less than five feet eight inches tall. This can hardly be reconciled with the statements of military histories. Major Dodge, for instance, says that five feet was the maximum height; that an inch or two more rejected the applicant, while an inch or two less was a desideratum. It was this small dark soldier who was ridiculed by the big blonde Celt and German until they had felt his mettle. If there were any big blonde men who marched under the Roman standard they were doubtless recruited from these same Celts and Germans.

In Woodruff's book we find the debilitating influences in the tropics ascribed to the actinic rays alone. No allusion is made to humidity, the constant presence of which is usually blamed for deterioration, lack of energy, etc. Nor does he instance that a sojourn in the tropics is often of benefit sexually, often causing barren women to conceive, thus favoring fecundity.

Finally his theory of a continuous integration of races of man, with persistence of original type and disappearance of new blood, seems too much opposed to the doctrine of evolution. If the actinic rays are so deadly to man how did he ever become adapted to them? He speaks of the long-headed Europeans or Mediterraneans pushing southward into equatorial Africa at an early period of human development and becoming negroes. But does he not seek elsewhere to show that such migration south inevitably leads to quick disappearance?

THERAPEUTIC NIHILISM.

Dr. William Osler, formerly of Johns Hopkins University, now Regius Professor of Oxford, England, in a lecture to the students of St. Mary's Hospital, London, recently is reported to have advised that the young men "should be skeptical as to the pharmacopeia." Continuing, he stated: "he is the best doctor who knows the worthlessness of most medicines." Coming from a teacher of medicine who occupies so prominent a position as does Dr. Osler, we believe this advice to be unwise and harmful. It is true that medicines, or more properly speaking drugs, are much less frequently used now than formerly; but this we believe to be because of a more thorough appreciation of the pathology of disease and a more scientific knowledge of the physiological action of drugs. It is not so many years since drugs were given empirically. Experience had shown that certain ones combatted particular diseased conditions. Not to have given them would have subjected the physician to censure, as text-books on treatment of those days recommended they be used. As a matter of fact, however, quinin is as effective in malaria to-day as it was twenty-five years ago, notwithstanding we now know its destructive action on the cause of the disease, the plasmodium malaria, or why it acts as a curative, a knowledge we did not then possess. It was then given as it is to-day because it *cured the disease*. Other remedies are given for the same reasons: that they at least ameliorate if they do not cure, such remedies as digitalis, the mercurials, potassium iodid, etc., and while it is sadly true that there are too few specifics in medicine, we believe—and this belief is fostered by the experience of our ablest clinicians—that drugs have a proper place in the treatment of diseased conditions as well as do prophylactic and hygienic measures coupled with diet in the prevention of disease.

This pessimistic disbelief in drug therapy is dangerous and unwarranted by demonstrated facts in the experience of those who seek the welfare of their patients. A timely use of the proper remedial agents will and does often tide over a crisis in disease as can be testified to by all physicians who are not therapeutic nihilists.

The young physician should not be so taught, so influenced as to entirely discard drug therapy. They are not consultants but actual practising physicians, dependent upon their success for the means of livelihood. Besides such advice we believe to be against the welfare of the patient who is entitled to whatever will assist in his recovery, be it drugs or therapeutic measures.

SOME MARVELS OF MODERN SCIENCE.

Sir William Ramsey, it would seem from reports which have appeared in both the scientific and lay press of late, has succeeded in bringing about the transmutation of an element. We have known that helion appears as radium disappears. If the emanations of radium take place while in contact with water they are dissolved therein and neon is produced. When in contact with a copper salt in solution we have argon. Lithium also appears when copper salt is used, copper thus being changed to lithium, a transmutation of metals in fact. Belief is expressed that metals of high atomic weight, such as radium, uranium, platinum and even gold, are slowly disintegrating or resolving into simpler elements. Whether all existing matter is complex combinations of a parent element will in time be known. It is now known that these metals exist in a state of unstable equilibrium and have a tendency to resolve into simpler forms. If this is admitted why not, through chemical synthesis, can they not be built up? Given the constitution of a substance, the chemist can produce it, as has been repeatedly shown of late, and if we can, through the breaking down of these so-called elements, determine their constitution and again rebuild, the stability of institutions and industrial achievements must undergo change, for when this is accomplished values will be so revolutionized that mediums of exchange will have to be readjusted. Gold and the precious metals will be made in the laboratory and other innovations made, the very thought of whose possibilities is startling. Verily the alchemist of old must have possessed a knowledge which we are just beginning to comprehend. Will it be that their efforts to change the baser into the nobler metals will yet become *au fait accompli?*

SUNSHINE AND TEARS.

We sometimes doubt the advisability of congratulations to all men because they are here to witness the close of one and the beginning of another year. And yet no matter how forlorn, how incompetent, how little there may be to look forward to other than disappointed hopes, the absence of those joys which keep us in the current, man clings to what he has rather than hazard a toss from the dice box of the unknown, and this is surely as it should be, for this strange unknown future often brings us to strange and unanticipated experiences, it may be the brightest and most enjoyable of our history. To-day may be the beginning of a new era in our lives; conditions may change; the towering clouds may disperse and to-morrow bring a new life with new and enjoyable experiences. And so it is another year is near its end, to-morrow ushers in a new one, and we, because of this hope given to all men, brush aside whatever of difficulties may have encompassed us for the past twelve months and turn our backs to the old, our faces to the new.

The period of "Peace on earth, good will towards men" will have come and gone before we meet again; but let us keep our faces towards the East and, entering into the spirit of the time, get whatever of joy and comfort we can, being content with what is ours, envying no man what is his.

THE PRIDE OF LAND OWNERSHIP.

We believe that there is no greater satisfaction in life than that which comes from land ownership, and this pride has come down to man of all generations from the dim and forgotten ages or before the beginning of history. To own a part of the earth, not alone the surface, but what extends indefinitely towards the earth's center as well as upwards towards the sky, together with whatever and everything fixed upon that space should and doubtless does in the minds of the great majority of men bring a feeling of exultation, of pride and honor, not to speak of the material benefits to be derived therefrom. Within the boundaries of this space is home and all that the word implies. The land owner is the only permanently fixed person on earth, upon his own he is lord and monarch. From it he feeds and clothes himself and family, grows his stock and becomes the only independent creature living.

Land ownership, from our present point of view, means the home—that place where happy childhood is spent, where the only real ties of human life exist, the family circle. Where the greatest joys are ours and to which the thoughts will turn throughout life. There is made the picture which is enduring regardless of our after life. Once leave the farm and we leave behind us the most enduring of memories, the most beautiful of pictures, the most enjoyable of days. No matter what may come to us in after life we will hug to our memories the home picture with all of its innumerable pleasures and the wish to own for ourselves such a place will torture us to the end of life. To compare a life in the great throbbing city, with its suffocating crowds, its insistent noises, bad odors, impure air, unsociable inhabitants, with the free life upon a farm and its accompaniments is like comparing misery to joy, starvation to beneficence. The pride of land ownership, we believe, when once experienced, can never be forgotten, or if not ours to-day ever regretted.

How many are there of us who have not experienced the passionate longing of the human heart for the touch of a vanished hand, and the sound of a voice that is still!

The burning mystery of existence at times forges us into a mere link of an endless chain, which moves mechanically in its monotonous round. Who has not lighted his torch and placed it on the mountain top, while he peered amid the shadows to see what was beyond the value of human ken, only to sink deeper into despair at the unanswering stillness from the Beyond! What would he not give for one word, for the sound of a sigh, the perfume of the presence, the touch of the garment—but these come not to the weary soul in waiting.

Where the compensation for earnest efforts, for the struggles to deserve a reunion? Can it be there is to be no more the interchange of love? Is there nothing beyond? Then let chaos reign on earth; let earnest efforts, vain struggles for good and the heart's longings lapse; let us no longer be tortured with anticipations. Let the friend cease to be; let us unsheath the sword and hasten the end!

THE OLD AND THE NEW.

Our readers will have noted an effort to improve the appearance of the Gazette, the trying on of new and more cheerful garments. While the modiste has not yet satisfied us with a perfect blending of colors for our outer dress, she has been busy and made such progress as to warrant the prediction that with the new year we shall be so adorned as to merit precedence in medical journalism. And while we have been busy with the outer garment we have by no means neglected that which is contained within the cover pages. We believe that the Gazette has been improved during the year in the material within its covers as well as in its appearance. It is our desire and intent to make it still more helpful during the coming and succeeding years. The Gazette is in this wise suggestive of not only the old and the new in medical journalism, but in the practice of medicine. Formerly the physician was called upon to minister to the sick, and while this will still necessarily constitute the greater part of his duties, the time is near when he will be engaged rather in preventing than in treating disease. In anticipation of the new era we lay aside the somber garments and attempt to embellish our journal with a more becoming cover page; change from sickness to health, from old age to youth and all of its ambitions.

BATHS AND BATHING.

(*A Series of Papers by the Editor.*)

Only in recent years has it been considered necessary to maintain public bathing establishments. A few of our larger cities have had floating baths, but these were open to the public only during the summer months. The policy of maintaining public baths at municipal expense seems to have commended itself to those interested in the improvement of the condition of the poor, and appropriations have been made in New York, Chicago, Philadelphia, Buffalo, Boston and a few other cities for the erection and maintenance of bathing establishments available to the public throughout the year. It is to be hoped that the good work thus inaugurated will appeal to all large cities, and thus in a small way help to eliminate some of the dangers accruing from conditions unfavorable to cleanliness, comfort and health.

Bathing, if not as old as the hills, at any rate is as old as man himself. Indeed, the ancients paid more attention to the value of bathing than do we of modern times. Bathing with many of the old races was a part of their religion. One of the laws of Moses was purification by water, and bath houses were established in India, Persia, Assyria and Egypt. The Hebrew's ritual ordered that the body should be washed before the daily meals, before wedding festivities and birth celebrations, and before all religious ceremonies.

A Roman emperor, if he wished to gain the good will of his people, expended with a lavish hand the money of the State in the construction of thermæ, vast buildings containing suites of bathing apartments, gymnasia, and sometimes even theaters and libraries. In the time of Ptolemy, Alexandria was unrivalled in its public bath system. The Greeks, again, were fully impressed with the value of baths in physical culture and for retaining "mens sana in corpore sano." Especially did the Greeks hold sea bathing in high favor as a therapeutic measure. Aristophanes in the scene in which Plutus is led to the Temple of Esculapius to cure him of his blindness chooses sea bathing as the remedy to effect this purpose. Suetonius states that water from the sea was first introduced into Rome for use in bathing by Nero, and most of the Roman emperors had their seaside palaces at which they passed a portion of the year. All the civilized nations of the ancient world set a very high value on bathing and personal cleanliness, and their bathing systems would put to shame the efforts in this direction of the people of the present time.

In modern times Germany was the first country to establish public municipal baths; so far back as the thirteenth century river baths for the summer months have been in existence in that country. Great Britain was the first to inaugurate the present system of people's baths. In 1794 Liverpool purchased a private swimming establishment and threw it open to the public, and in 1842 the municipality of that city opened public baths and washhouses. Liverpool, with a population of 660,000, has spent more than all the American cities combined for baths. Almost all the towns of Great Britain possess public baths in proportion to their population. London has thirty-five, Glasgow has twelve public baths and five swimming baths. The Continent of Europe generally has followed the lead of Great Britain, and in many ways Germany has improved upon the system in vogue there.

Of all the countries of the earth, however, Japan is easily first in facilities for bathing. With the Japanese personal cleanliness is a passion, and the use of water in every way is more common than elsewhere.

In Tokio there are more than 800 public baths and from 800,000 to 1,000,000 people go to the public baths daily. The population of the city is less than 2,000,000, and the death rate for children is lower than it is in Europe or in America.

The United States is very backward so far as public baths are concerned. There are few cities which provide them—not more than twelve—and the interest taken in the matter is very languid. Lyon Playfair said that a great part of sanitary science can be comprised in that one word—cleanliness. The influence of bathing facilities on the public health is very great and consequently municipal baths should be regarded not as a luxury, but as a necessity. Personal cleanliness is a most important factor in the life of a people. It goes without saying that there should be baths, if possible in every private house, but beyond this there should be facilities easily available to the dwellers in the poor districts of cities for bathing. The report of the committee appointed by the Mayor of New York, transmitted to the Legislature on March 25, 1897, was that out of 480 houses visited only 17 had baths and only three houses of each 100 had bath rooms, and that there were only three public baths in the city of New York. As it is in this respect in New York, so it is to a greater or less extent in every American city.

People's baths are thus badly needed; such establishments should be simple, unpretentious yet inviting structures, with all necessary means for cleanliness and comfort, but without superfluous luxury. As to the form of bath most suitable to the use of the dwellers in the tenement districts of cities, the concensus of opinion is that the rain bath fulfills best the required conditions. In the Berlin Health Exhibition of 1883 the solution of the problem of providing cheap baths for the masses was first indicated by the people's baths of Grove Lassar. The novelty consisted in the use of the inclined overhead tepid spray in place of the tub or plunge. According to Gerhard no form of bath is better adapted from a hygienic and economical point of view for working people than the tepid shower or rain bath. It is the simplest, quickest, cheapest, cleanest and withal best bath for people's bath houses; the one which requires the least space, the least time, the least amount of water, the least fuel for warming water, the least attendance and the least cost of maintenance. Baths of this description have also been strongly recommended, in fact are in use in some public schools both in the United States and in Great Britain. The value of baths in public schools is so patent as to need no emphasis. Factories also should be provided with ample bathing facilities; here, too, the rain douche bath supplies most effectively the double object of bathing and washing. Prisons, hospitals and all public institutions, and especially those devoted to the care of the insane, should be generously provided with bathing and washing facilities.

While cleanliness is good for the health, both physical and moral, the exercise of swimming is of importance in the preservation of bodily health and strength, and every city should possess swimming pools. Hawk has recently undertaken investigations at the University of Pennsylvania, with regard to demonstrating the comparative value of various physical exercises, the result being that he has shown swimming to be the most beneficial. He visited the dressing-rooms at the athletic field, and immediately before each athlete left for his exercise drew blood from him with a sterile needle. Then when the athlete returned to the dressing-room after running, jumping, pole-vaulting, or engaging in water-polo, the needle would again be brought into play, and a second sample of blood drawn. Analysis of the blood, to discover how far each exercise increased the number of red corpuscles showed that water-polo and other forms of swimming resulted in the largest increase. Swimming resulted in an average increase of twenty-one per cent., as against seventeen per cent. for the next best exercise.

Bathing. All baths are unsuitable for the asthenic, and are to be avoided by those who have a tendency to apoplexy, and by those suffering from fatty heart. Should a cold bath be followed by chilliness, it is proof that harm is being done. Cold baths, moderately indulged in for a short period only, are followed with a return and even increase in bodily temperature. This action is reflex, the increased heat production being due to more rapid molecular transformation. Warm baths of short duration cause a decrease in the temperature of the body by retarding heat production, and by dilating the capillaries, thus favoring radiation. If prolonged, a warm bath raises the bodily temperature by the additional heat brought to the skin, and by checking normal radiation. The depressing effect following a prolonged warm bath may be to a large extent overcome by the addition of salt to the water. For purposes of stimulation, a hot bath should always be of short duration, two minutes at the most, for, as soon as the temperature of the water is lowered, the bather will be subject to the depressing effect of moist heat.

Much comfort and benefit may be derived from occasional sponging of the body with cold water. When one possesses sufficient vital power to react after the bath, sea bathing is often of great benefit. It is well, however, to warn debilitated persons from indulging in sea baths, since they may produce serious exhaustion—partly by excessive abstraction of heat from the body and partly by fatigue.

Sea baths are stimulating in a high degree. The respiratory and general exchanges are affected in the same manner as in any application of cold therapeutics, and these effects are enhanced by the richness of the water in mineral constituents; and, lastly, is experienced the beneficial effects of the exercise of swimming. Robin and Binet explain the action of sea bathing as follows: "The various elements of activity in a sea bath stimulate the peripheral nerve terminals, and the extensive nervous surface of the integument, and this stimulus is transmitted centripetally to the nerve centres, which preside over general nutrition." Robin also said: "Sea baths accentuate the double process of assimilation and disassimilation which together constitute nutrition, this prime manifestation of vital energy. It promotes the combustion of the residues of organic activity which, instead of stagnating in the organism and by their retention engendering functional disturbances which are the forerunners of actual disease, are rendered soluble and their elimination from the economy thus facilitated." Sea baths are suitable for the rickety, the lymphatic, the strumous, the subjects of osseous and glandular tuberculosis, in anemia with slowed nutrition, in obesity by defective metabolism, in those predisposed to gout, in chronic autointoxication, in hyposthenic dyspepsia, in convalescence after febrile diseases, and for diabetics when the retention has begun to give way. They are contraindicated in cases of pulmonary tuberculosis in which nutritive exchanges are usually over-active. In cases of rheumatism with acute or subacute attacks of arthritis with neuralgic attacks. Hysterical subjects as a rule derive no benefit from sea air or sea bathing. Cold water baths are contraindicated on account of their influence in causing contraction of the peripheral vessels and intropulsion of the blood to internal organs, in the presence of diseases that predispose to internal hemorrhage, to hemoptysis, hematemesis, uterine hemorrhage, and in the aged in cerebral hemorrhage; further, in cases of valvular diseases of the heart, arteriosclerosis, cholelithiasis, recent rheumatism, gastric catarrh. The cold sea bath is not adapted for greatly emaciated or profoundly anemic individuals or for those recently convalescent from severe illness.

Very wonderful therapeutic properties have been credited to the action of heat as administered in the form of the *Turkish bath* (dry heat) and in the *Russian bath* (moist heat). It sometimes occurs that a person taking a Turkish or Russian bath fails to sweat freely, and in consequence complains of a feeling of distress and perhaps develops a severe headache. In such cases it is better to discontinue the bath, since sudden death has taken place from heatstroke while indulging in the Turkish bath, as well as from congestion of the lungs.

Bathing Children. Some definite rules should be established for bathing of children, since baths not given rationally may expose a child to catarrhal affections and their consequences. In early childhood baths prove useful therapeutically, not only on account of their influence upon the functions of the skin, but also because of their influence upon nutrition and the whole organism. The daily warm bath, from 90 deg. to 98 deg., has become a practice among the better educated people, and infants and young children seem the better for it. As the child grows older, the temperature of the water should be gradually made lower, thus securing that which the Germans term "hardening effect." The mother or nurse should be instructed in the proper use of the bath. The child's face and scalp should be carefully washed with soap and water, care being observed in protecting the eyes. This should be done before the child is completely undressed, and its body and limbs cleansed with liberal supply of soap and water. The child is now ready to be immersed in its bath. Quickly removing all traces of soap lather, the child may be permitted to remain in the water for two or three minutes, and is then wrapped in a large Turkish towel, and quickly dried.

Baths for elderly persons. The use of baths in elderly persons restores elasticity and smoothness to the skin, loosens the tissues and thereby brings back fulness and roundness to the limbs. It tends to prevent eruptions, or where these are present it often removes them. It is well to commence with these baths as soon as the first infirmities of age begin to make themselves felt. The best time for bathing is the forenoon about two hours after breakfast, or the afternoon, about four hours after the midday meal. Two baths should be taken every week, and should never be too hot or too cold.

Bathing during the menstrual period. With regard to this matter Edgar says: "1. All forms of bathing during the menstrual period are largely a matter of habit, and usually can be acquired by cautious and gentle progression, but not for every woman does this hold good; surf bathing, where the body surface remains chilled for some time, should always be excepted. 2. A daily tepid sponge bath (85° to 92° F.) during the menstrual period is not only a harmless proceeding, but is demanded by the rules of hygiene. 3. In the majority of, if not all women, tepid sponge bathing after the establishment of the menstrual flow is a perfectly safe practice. 4. Furthermore, in most women the habit of using the tepid shower or tub bath after the first day or two of the flow can with safety be acquired."

Bathing for parturients. Shumaker has made extensive bacteriological studies of this question and thinks we have no reason to disregard the bath altogether. Germs may sometimes find their way into the vagina from the bath water, but this occurrence is very rare and is usually dependent on defective healing of lacerations of the perineum. The practice of washing off the external parts has no advantage over the full bath.

DIAGNOSIS OF ANEMIA.

In secondary anemias especially all facts must be considered, etiological factors and physical data, as well as the blood picture. According to Dr. Cabot (*Journal of the A. M. A.*, Aug. 24, 1907) there are only two important types of anemia, if we depend on blood picture alone. The first type includes the anemias due to hemorrhage, malaria nephritis, chlorosis, and diseases leading to destruction of red blood corpuscles. The low red cell count and relative increase in hemoglobin, in pernicious anemia especially, if supported by history and examination, makes this one of the clearest and surest diagnoses in medicine. The finding of eggs in parasitic anemias is a sine qua non.

Dr. Meltzer, in the same journal, discusses the treatment of anemia. Methods of direct transfusion, as introduced by Crile, and the use of colonic irrigations recommended by Herter, are exceptionally beneficial. He explains the action of inorganic iron being converted into intermediate organic compounds and stored up as reserve iron in the system.

LINCOLN.

Ho! America, harken for a while.
Leave your money bags; never mind your pile.
A stranger hails you from across the seas,
One who has seen your hives of busy bees,
And viewed your progress with admiring eyes;
Yet dares to lecture you and criticise.
But notwithstanding this, he feels quite sure
You'll deem his motives to be good and pure.
He does not wish to flatter you or say
What will not bear the scrutiny of day;
Yet to stir up your memory a bit,
If you in courtesy will him permit,
He would recount the blessings you possess,
Each one the gift of God's profusiveness.
The hand of Providence in yours has placed
A land of promise whereon God has traced
Such features as no other land can claim,
And scattered treasures which to count or name
It were impossible, so vast the store,
Which lie ungathered at your very door.
He's made of you a mighty power for good,
A nation of the choicest blend of blood,
And which in blending has prolific been
In rare intelligence, subtle, bright and keen.
No nation is so recent in its birth,
And yet there is not one in all the earth,
Which shows maturity so amply traced,
And traits of youth so thoroughly effaced;
Which the Pacific fondles in the West,
And East, Atlanta nurses on her breast.
You're rich in dollars, quarters, cents and dimes,
But richer far in all your varied climes.
Down South you have the sun's effulgent rays,
While in the North grim winter comes and stays.
There is no land where Nature giveth more,
Than she to you, from out her boundless store.
From every tree some kind of fruit she drops,
And from the land she yields three copious crops.
From sterile hills she fills your lap, galore,
With iron, silver, copper, golden ore;
And from the roomy vaults beneath the soil,
She'll quench your thirst for wealth with limpid oil,
While from substrata if you bore a hole,
She'll fill your bunkers with the choicest coal.
Surely a favoured people, now one race,
You have become, but only by God's grace;
And by the aid of one whom He did send
To be your Saviour and your truest friend.
One whose supernal mind and lofty aim
Was not ambition nor immortal fame,
But that which tended to his country's weal,
That which has made the cankering ulcer heal,
Destroyed the parasite, which bred discord,
Which at the vitals of the people gored,
And thus restored your nation's healthy tone
By welding divers factors into one.
As some great rock, which breasts the angry waves
Regardless how the ocean storms and raves,
Affords a sheltered haven on its lea,
Where peace prevails despite the raging sea,
So he arose above rebellion's tide,
To be your friend, philosopher and guide,
To steer you safely past those reefs of hate
Which threatened on each hand the ship of state.
How manfully he stemmed that ruthless tide,
Which else had spread disaster far and wide;
Or had he flinched when danger dark and drear
Threatened to crush him both in front and rear.
Nay more from duty's path he never swerved,
Not even quailed, nor ever was unnerved.
Those rugged features and those glorious eyes,
Distinctive of the man so good and wise,
Sentinels of the brain that lay behind,
Trusted ministers of his noble mind,
Crowned a frame, uncouth, we have been told,
But in it throbbed a heart of purest gold.
And when that comely smile his face caressed,
And smoothed those tracks of care, who would have guessed
That love lay ambushed in each crumpled line,
And did his every act of life enshrine?
But blasting sorrow and corroding care
Had left indelibly their traces there;
Deepened the furrows grief had left behind—
Persistent records of a harassed mind.
His, that unselfish patriotic soul,
Which did his every act of life control,
Suffering equally with friend and foe,
When civil conflict planned your overthrow.
He was your pilot through that sea of blood,
Which plunged your country 'neath its crimson flood
And when he caused the bloody feud to cease,
His wisdom paved the path to lasting peace.
He would not brook an alien flag to wave,
Nor trifle with the freedom of the slave.
All races must, regardless of their types,
Now live as one beneath the Stars and Stripes.
That bond of Union—perilously strained—
Must—freshly welded—ever be maintained.
One central power to curb the will of fate,
And yet receive its impulse from each state
All discord to be hushed beneath that flood
Which drenched the Nation with its noblest blood.
Loyalty, rebellion must displace,
And pardon, every injury efface.
One capital for the United States
Will to *one* Congress open wide its gates.
Such formed the goal at which your Lincoln aimed.
These were the axioms which his wisdom framed.
And on whose lines your constitution stands
Shielding the people by its just demands;
Making you the envy of the world,
Claiming respect where'er your flag's unfurled.
What nobler life than his can pen portray,
Or to the world that meed of praise convey.
That might recall the Master mind and hand
Which brought salvation to your risen land?
For you he laboured, for you death defied:
Then the assassin, and for you he died.

—Robert Bell, M.D.

15 Half Moon St., Mayfair, London, W.

LONDON LETTER.

A Medical Exhibition was held in London from Oct. 7 to 12, at which were represented all the principal pharmaceutical concerns of Great Britain, food companies, and some of the principal surgical instruments and appliances manufactured. This exhibition is now an annual affair and is mentioned in the *Lancet* and other British medical papers at considerable length.

A great feature of the exhibition was the large number of food and dietetic companies which exhibited their specialties. Among those may be mentioned International Plasmon, Ltd., at whose stall was shown various kinds of natural foods and dietetic preparations. Horlick's Food Co. had a very fine exhibit. The Mauhu Food Co. exhibited dietetic foods in great variety. Theinhardt's Food Co. showed infantile foods in different forms. Allen and Hanburys, Ltd., showed, in addition to a very excellent display of surgical instruments and appliances, a series of their well-known dietetic preparations. The Protene Co., Ltd., showed examples of their many food preparations. Keen, Robinson & Co., Callard & Co., Prideaux's Pure Casein and Life Food Co., Foods, Ltd., and other food companies showed specimens of their respective foods. Brand & Co., Ltd., exhibited examples of their world wide known concentrated meat preparations. George Back & Co. had on view an excellent diabetes whisky, free from sugar and of good flavor. Gautier Frères exhibited specimens of their old brandies. Jeyes' Sanitary Compounds Co., Ltd., exhibited their well-known preparation Cyllin, a non-toxic bactericide. The Angier Chemical Co., Ltd., showed Angier's Emulsion.

Duncan, Flockhart & Co., renowned for anesthetics, exhibited anesthetics, sprayers and inhalers. Johnson & Johnson, the originators of the "Red Cross" brand of cotton and cotton preparations, showed a large variety of their specialties. Fairchild Bros. & Foster among other exhibits showed preparations of the pancreas gland for hypodermic, internal and external use. Amour & Co., Ltd., had a large and comprehensive display of their organic therapeutic products. Parke, Davis & Co. had one of the best exhibits.

Perhaps the most novel feature was a preparation of olive oil, which is being widely used as a medical agent. This preparation, known as Egmol, is olive oil emulsified with fresh eggs. Another novelty shown at this stall was a pocket typhoid agglutometer, which will enable the physician to positively diagnose typhoid fever without the aid of a microscope. Meister, Lucius and Bruning, Ltd., the introducers of antipyrin, showed a large selection of their products, including pyramidon and albargin. C. A. Hoefftcke, Ltd., exhibited an excellent display of the most modern appliances for the treatment and cure of deformities arising from disease or accident. The most striking novelty was the instantaneous gloving machine an ingenious contrivance for putting on an india rubber operating glove with ease. E. Merck had a remarkably fine exhibit of chemicals. The Miol Manufacturing Co., Ltd., exhibited Miol, an emulsified preparation containing olive oil combined with organic iodine and phosphorus compounds. Bovril, Ltd., showed specimens of most of their specialties. Perrier showed specimens of their highly popular natural water. One of, if not quite the most interesting exhibit, was that of the Equipoise Co., Ltd. The name equipoise has been given to a range of specialties in furniture, such as beds, mattresses, couches, lounges, easy chairs and bath chairs, all constructed on such a principle that even an almost helpless invalid is able to assume any one of a number of positions from the recumbent to the sitting posture without assistance and with scarcely any exertion. By the release of a catch at the side the delicately adjusted framework moves almost by volition, and the patient can assume the posture desired and retain the position by a turn of the catch. These couches, or rather the principle has, have received the highest commendation from medical and lay papers and are of the utmost value in hospitals.

Recently there has been, in some of the principal lay journals of London, an animated, not to say acrimonious, discussion on diet. The fons et origo of this paper warfare was, in the first instance, some caustic remarks made in a speech by Sir James Crichton Browne on food faddism. In this speech vegetarianism was attacked. Of course, the vegetarians were only too anxious to exploit their theories and incidentally to advertise themselves, and it being what is known as the silly season for the papers the editors were willing to give the disputants a more or less free hand. The correspondence was amusing and, perhaps, instructive, although both sides were as certain of the validity of their views at the end of the discussion as they were at the beginning. Many prominent medical men took part in the correspondence.

Pulmonary tuberculosis is fearfully rife in Ireland. Out of a total number of deaths from all causes registered in Ireland during 1906, amounting to 74,427, no less than 11,756 were attributed to tuberculosis. About one-sixth of the yearly deaths in Ireland are due to the ravages of the white plague. Various plans have been suggested in order to check the disease, among which may be mentioned that mooted by Dr. Tolin. He threw out the idea that the Gaelic League should use its influence to further the cause of public health in Ireland as it had already exerted successful efforts in the direction of suppressing intemperance. A tuberculosis exhibition is now going on in Dublin, with the object of educating the people in regard to tuberculosis and means of prevention. Dr. Wellesley Harris, Medical Officer of Health for Lewisham, in his annual reports points out the many difficulties which surround the detection of unsound canned foods. Blown tins, of course, are easily recognized, but the difficult cases are those in which the food is decomposed or infected prior to canning. On the other hand, because one or two tins are blown it does not follow that this is so with the remainder of the consignment. If a seizure be contemplated each tin must be opened and examined. In some cases putrefactive bacteria may liquefy the gelatine present in the tin to such an extent that the liquid nature may be ascertained by shaking. The British Commission on Vivisection is still sitting but does not seem to make much real headway. An expert is examined and gives what to a medical man appears to be conclusive evidence to show that experiments on animals are not only conducted with great humanity, but that such experiments are necessary if our knowledge as to the treatment is to be increased. The next witness is a more or less ignorant opponent of vivisection, probably a woman, who volunteers as information exaggerated statements as to the cruelty practiced on animals, either seen by herself or from hearsay. The public generally take the evidence given by the one who does not know and the conclusion is come to that all vivisection is cruel There are, too, among the ranks of the anti-vivisectionists clever but wrong headed men, like Bernard Shaw, who really have no accurate knowledge of the subject, but are always ready to talk glibly and cleverly regarding any matter under the sun. Dr. F. M. Sandwith, speaking recently at the Gresham College, London, said that it was impossible to obtain cow's milk under ordinary conditions without finding some bacteria in it. If milk were not carefully handled the number of germs became almost incredible. In some cases about 300,000,000 germs might be found in a teaspoonful of milk. Milk should be transported to the cities from the country with the least possible delay. In warm weather it should not be on the railway for longer than an hour and a half unless means were adopted to keep it cool. The ideal conditions under which milk was sold existed in the United States. The ordinary farmer in England had not the slightest regard for cleanliness. Under ordinary conditions in England cows were milked amid dirt, cobwebs and manure.

Home working among the poor, or what is known as the home working phase of the sweating industry, is receiving great attention in Great Britain at the present time. A conference on the matter was held in Glasgow a week ago, and on Oct. 21 a conference of the British National Union of Women Workers opened in Manchester. The condition of home workers in all the large cities of Great Britain is both pitiable and unsanitary, besides being a menace to the health of the community at large. The wages earned are starvation wages, barely sufficient to support existence; at trousers finishing, the worst paid class of work, a woman can earn scarcely 4 cents an hour. In London, owing to the large influx of alien labor, conditions as regards home work are worse than in any other large center of population in Great Britain. As the writer of this letter has been deputed by a prominent British medical journal to make an investigation into this question as regards London, for the purpose of making the facts public, occasion will be taken at a later date to make the readers of this journal acquainted with the results of his investigations. The state of India from the hygienic standpoint.

as well as from the political point of view, is giving rise to much anxiety in Great Britain. Mr. Morley, the British Secretary of State for India, speaking in public a few days ago said that the plague figures were terrible. At this season of the year plague mortality is generally quiescent, but this year, even if the last three months show no rise, the plague mortality would still be the worst that has ever been known in India. In trying to remedy plague in India you have to encounter tremendous habits and prejudices. Working on the supposition that plague may be conveyed by a flea from a rat, you are dealing with a population who object to the taking away of life. Experiments undertaken recently in India show plainly that plague can be transmitted by rat fleas, not only from guinea pig to rat, but from rat to guinea pig. Further, it can be transmitted also from guinea pig to monkey. The *British Medical Journal,* October 19, devotees two columns to the consideration of a reputed cure for the opium habit. The drug employed is obtained from a plant combretum sundaicum, a woody climbing plant growing in a district of Malay Peninsula. Experiments are now being made with the plant in England to test the validity of the claim. Some sanatoria have been brought out recently which promise to have a wide vogue. These are known as Melvin's Patent Portable Sanatoria, and are so constructed in sections that they can be taken to pieces, packed in a remarkably small compass and moved and adjusted wherever required. Being made of a wood framework, covered with canvas, with wooden floor, they are far superior to tents in capacity, shape and in ventilation and are thoroughly waterproof. The sections when fitted are hung on hinges, so that the hut can be closed or as open as may be desired. The usual size of a portable sanatorium is 8 feet 6 inches in length by 6 feet 3 inches in width, and will allow of one, two, three or four beds being placed in position. They are peculiarly well adapted for use in the treatment of pulmonary tuberculosis on account of the ease with which they can be moved, the readiness with which any part of the front, sides or back can be closed or opened, and their waterproof qualities. A one-bed sanatorium costs $70, a two-bed sanatorium $75, and a four-bed one $85. The outgoing Lord Mayor of London, Sir John Treloar, has always interested himself in the care of crippled children, and his mayoralty has been distinguished by the collection through his efforts of the sum of $300,000 towards the accomplishment of a scheme which has been long in his mind. His idea has been to found a home in the country for crippled children where they might enjoy the advantages of healthy surroundings and good food. The British War Office has come to his aid and has handed over for the purpose of the crippled children's fund the Princess Louise Military Hospital at Alton, a series of buildings, situated in a delightful part of the country, and occupying part of the 68 acres which will in future be known as Lord Mayor Treloar's Cripples' Home and College. The buildings have room for 300 children, and that number will be installed at Alton in the spring. Prof. Major Ronald Ross and Prof. Haffkine have been sent out by the Liverpool School of Tropical Medicine to Mauritius for the purpose of investigating into the malaria problem and of putting into effect preventive measures. An interesting service was held in St. Paul's Cathedral, London, on the evening of Oct. 22. The annual festival service of the Guild of St. Luke took place with full choral celebration. The service was attended by a very large number of medical men, many of whom were in their academic robes.

Reviews of Current Literature.

ON THE USE OF FRUIT.

Generally speaking, fruits are wholesome and palatable foods, yet it is not at all uncommon to find that one or more sorts cannot be eaten by an individual. Thus, many persons find that strawberries cause distress and many others that any acid fruit is a cause of digestive disturbance. Such cases are explained on the ground of some personal idiosyncrasy.

The extended use of fruit in the diet is certainly justified on the ground of palatability, food value, and esthetic considerations, but there are those who seek a further justification on the score of hygiene. It is commonly conceded that most fruits are laxative, and it seems probable that they owe this property to the considerable amount of water which they contain, to the salts in solution, or to the irritating crude fiber, small seeds, or other indigestible materials present, or to all these together. Man seems to crave and require some acid in his diet, and the citric, malic, and other fruit acids are undoubtedly wholesome.

The importance of fresh fruits and green vegetables in supplying the body with iron and other mineral matters is often spoken of, and it is true that the amount of iron, for instance, which many such foods contain is large in proportion content or their energy value. This means that if the ordinary diet does not supply enough of some mineral constituent it may be obtained by adding the fruit or green vegetable, which will give it without materially adding to the nutrients and energy of a diet already abundant in these respects.

Considerable bulk is an essential factor in the diet. If the food eaten were of such a nature as to be almost completely absorbed, the large intestine would not readily empty itself and serious complications would follow. For this reason bulky foods, like fresh succulent vegetables and fruit, are of importance, as they usually contain a considerable portion of indigestible matter.

No well informed person would to-day share the belief, once so widespread, that tomatoes are the cause of cancer, yet many apparently give credence to statements that certain fruits are a satisfactory food for brain workers, while others must be avoided. At any rate, such statements are often found in print. In general, it may be said that very few investigations have been made which indicate that the different fruits possess specific medicinal qualities. Those which contain an abundance of sugar are naturally excluded in a large measure from the diet of diabetes, while there are other conditions in which acid fruits are considered to be undesirable.

To the juice of acid fruits like the lime, lemon, orange, pomelo, or "grape fruit," and the kumquat (the small orange which is eaten entire, both skin and pulp), hygienic properties are commonly attributed, and there is reason to believe that this reputation is deserved. Such fruit juices stimulate the appetite and are beneficial in other ways. The bitter principle in the pomelo is commonly said to be of value medicinally, perhaps because it suggests the bitter flavor of quinine, but so far as can be learned the real value of this bitter quality is a matter of opinion rather than of experimental study.

It should be remembered, however, that the body in health does not need artificial aid in performing its normal functions and that for digestive disturbances it would be wiser to seek competent medical advice than to depend on the casual use of pineapple or other plant ferment, especially when it is remembered that there is great doubt as to the efficacy of any ferments introduced artificially into the stomach.

Fortunately there are so many other good reasons for using fruits that we have little need to base our use of them in quantity on supposed medicinal virtue.—*Bulletin U. S. Department of Agriculture.*

THE SULPHATES IN CARBOLIC ACID POISONING.

AFTER reviewing the literature of the subject of the treatment of phenol poisoning by the sulfates, Torald Sollmann and E. D. Brown, Cleveland, Ohio (*Journal A. M. A.*, March 23) summarize the results of their own investigation as follows: 1. Chemical combination between phenol and a sulfate does not occur outside of the body, neither in neutral nor in weakly acid nor in weakly alkaline solution. This excludes at once all possibility of chemical combination in the alimentary canal or in the blood. 2. The blood pressure and convulsive effects of phenol are not modified in the slightest degree by intravenous injection of liberal quantities of sodium sulfate under any of the following conditions: (a) When phenol, even in sublethal doses, is introduced into the stomach and is followed within fifteen minutes by intravenous sulfate injection. (b) When sublethal doses of phenol are injected intravenously and followed promptly by the sulfate. (c) When sublethal doses of phenol are injected intravenously after the sulfate injection. (d) When an incubated mixture of phenol, sodium sulfate and sodium bicarbonate is compared with a solution of phenol in sodium chlorid solution. (e) When the sulfate is injected immediately after cardiac stoppage from lethal doses of phenol.

The conclusion that sodium sulfate, however administered, is not a chemical antidote, as suggested by Baumann, for acute phenol poisoning follows clearly from the above. Details of the experiments, which were made on anesthetized dogs, are given. The apparent beneficial effect of intravenous sulfate injections observed clinically in some less severe cases is attributed by the authors to saline stimulation, as chemical combination could not have taken place in the cases reported. They think that the method may have some value and deserves trial.

CLIMATE AND OUTDOOR LIFE IN TREATMENT OF TUBERCULOSIS.

NOT all climates are beneficial to tubercular patients and not all patients can be benefited by any one climate. Each case must be individualized. Dr. Paquin (*Journal A. M. A.*, Sept. 14 '07) divides tubercular patients into two classes. One class includes profound anemias and softening processes, cavity cases and mixed infection which, as a rule do better in higher dryer altitudes than in lower ones, though among incurables a mild, very warm climate is more grateful. The other class, including the dyspeptic, pretubercular and incipient cases, do well anywhere in pure air. Temperature affects tuberculars quickly. A moist air is hotter in warm weather and colder in cold weather than dry air, and yet a certain amount of moisture is necessary for a good air. In a comparatively dry atmosphere heat radiates quickly, giving cool, comfortable nights. Cold, dry air invigorating; high humidity is especially depressing both in heat and cold. Rainfalls and snowfalls are not bad for tuberculars, as they clarify the air and, unless too numerous, do not saturate the air with moisture. Frosts are beneficial in arresting and suspending decomposition and fermentation of earth surface, yet in the spring a patient should move to a locality where frosts are light as air becomes moist and thick if frost has been deep. High altitudes are good, but altitude in itself is not enough. An atmosphere filled with alkali dust or sands is not favorable regardless of its height. Dr. Paquin describes an arrangement for the bed between a dressing room and a balcony with sliding sashes on each side, so patient can sleep in or out as he desires and at same time can get up in a warm room.

THERAPEUTIC ACTION OF COUVALLARIA.

Digitalis as a heart tonic is not reliable either in strength or action. After taking several large doses it will suddenly exert its action and make the patient ill, also in large doses it upsets the stomach, spoils appetite and causes vomiting. Couvallaria (lily of the valley) is different, according to the experiments and studies of Dr. Senneker, in *Therapeutic Gazette,* September, '07. It gives tone to the stomach, increases appetite, has tonic effect on intestinal mucosa. In small doses it strengthens heart's action; in larger doses it restrains cardiac activity. It is good in mitral insufficiency, relieves dyspnœa and palpitation quickly, and may be discontinued after a few days. Seldom diagrees with stomach, but improves appetite and action of bowels. Ellingwood, in his Materia Medica, says: "It strengthens heart's action, slows the pulse, corrects rhythm, improves tone and increases power of the heart and entire capillary circulation. Efficient in dropsy of Bright's disease, and in weak heart of phthisis. In rheumatic endocarditis and pericarditis it strengthens and improves the heart and favors elimination. It is an excellent remedy in tobacco heart and asthmatic heart." It is indicated in all cardiac affections except fatty degeneration, in which cases it is detrimental. He reports cases in his own practice in which the results have been good either given alone in doses m v-x every half hour for a few doses and then every hour or two. In other cases he gives m iii with nux vomica m ii every two hours. Its combination with strophanthus is not good.

REFLECTIONS ON METHODS OF TEACHING MEDICINE.

Dr. Mulot, in *Medical Record,* Aug. 17, 1907, criticises medical teaching of to-day as seen through the eyes of a twenty-year practitioner. Many changes can be noticed, length of study doubled, more subjects introduced, new methods and more clinics, but the system of teaching unfortunately has not changed. The students are not taught to think medically. Facts are crammed into their gray matter to be used in examinations. He knows his physiology as a physiologist and does not know it medically. When confronted with a group of symptoms he does not attempt to explain them physiologically, but rather depends on his memory for a name that is synonymous with this symptomatology. The real teachers of students are not the men who pour forth golden wisdom from their own experiences until cut short by the bell, and after all has been said they find they have lectured over the heads of the students. They have delivered an address rich and overflowing in wisdom to the experienced physician. The true teacher is seldom found; the man who can build a structure simple, compact, practical and scientifically sound to the student's understanding rather than to his memory.

HEMORRHAGE IN TYPHOID FEVER.

Hemorrhage is most likely to occur in typhoid fever during the ulcerative stage as a result of erosion of one or more blood vessels in the ulcerating lesions. If the loss of blood is sufficient to produce any systemic symptoms of collapse there will be immediate improvement in the toxic symptoms as a result of withdrawal of a certain amount of typho-toxin. There is a greater or less degree of collapse, temperature falls, heart's action increased in frequency and decreased in strength, blood pressure already low falls still lower, cold clammy skin, thirst and restlessness. Involuntary relaxation of sphincters. The collapse is a protective measure, as lowered blood pressure offers a favorable condition for formation of clot and cessation of hemorrhage. If collapse itself is sufficient to endanger life it must be met energetically, but with care not to overstimulate. External heat, bandages to extremities, raising foot of bed, and absolute mental and physical rest; bowel movements to be received in cotton or oakum. To insure rest of bowel hypodermics of morphine should be given freely, as it is more efficacious in controlling hemorrhage than any other drug. Ice bag or Seiter coil is beneficial if collapse does not counterindicate the use of cold. Astringents are harmful as they cannot reach the site of bleeding and are apt to cause vomiting. Theoretically, adrenalin would control bleeding, but it also increases arterial pressure and is liable to force out any clot that is forming. Calcium lactate, in doses of 5-15 grains t.i.d., has been shown by experiments to increase the coagulability of blood and is worthy of trial. —DR. TASKER HOWARD, in *Merck's Archives*, March, 1907.

STANDARDIZATION OF CARDIAC REMEDIES.

MANY samples of tinctures of digitalis and strophanthus were obtained on the market in different parts of the country and examined by Dr. Edmunds (*Journal A. M. A.*, May 25, '07). He used the test of ascertaining the dose necessary to stop a frog's heart. He describes in detail the methods used in fourteen samples from wholesale houses and retail pharmacists. The different preparations varied greatly, some requiring four times as much as others, even when obtained from the same source. The strength of the dose which a patient actually receives is a matter of chance. Infusion of digitalis made from the same leaves as the tincture had an effect on the heart proportionate to the strength of the preparation. Five samples of strophanthus were found to vary as much as the digitalis. Dr. Edmunds emphasizes the fact that there should be a national standard, instead of requiring the physician to assay each dose with his finger on the pulse.

TROPICAL CLIMATE AND THE WHITE RACE.

AN interesting preliminary report by Dr. Wolfe, of the U. S. Army (*Medical Record*, Aug. 31, '07), based on 214 examinations, shows that after arrival in the tropics a state of increased activity of all the bodily functions and a sense of well-being occurs, which lasts from three to twelve months. This is followed by a state of quiescence or indifference, which gives place insensibly to lassitude, nervous irritability, weakness and neurasthenia. The skin loses its soft, ruddy hue and acquires an anemic, muddy, yellowish bronzed appearance, the eyes lose their brightness, the face its animation. Conjunctiva and sclera become muddy yellow, elasticity and uprightness disappear, the shoulders droop, mental activity becomes an effort; then follows mental and physical stagnation and retrogression. Active life is as much a necessity in the tropics as in colder climates. In Cuba Dr. Wolfe noticed that teamsters and packers who drank all kinds of water and whiskey, were out in the sun all day and out all night, had a lower sick rate than the enlisted men who did guard duty and lay around in their tents.

ADAMS-STOKES DISEASE.

FIRST described by Adams in 1827. Slow arterial pulse down to 20 or less per minute. Short syncopal aproplectiform or epileptiform attacks. Pulsation of veins in the neck occurring in ratio of 4 to 1 with the radial pulse. These are the characteristic symptoms and are attributed by Dr. Butler (*Am. Journal of the Medical Sciences*, May, 1907) to an interruption of the normal communication from auricles to ventricles, either by organic defect or functional weakness. Case reported: Male, 43, business man, temperate. Negative family history. Typhoid 20 years ago and pneumonia 2 years ago, during which the pulse was never over 42 per min. Final illness began with temperature of 101, pains in larger joints, brief convulsions, and pulse 28. Convulsions increased in frequency and were almost continuous. Pulse becomes less, down to 14, between attacks and 6 or less during attacks. Extreme pallor, rigidity of arms, slight clonic movements, cyanosis of lips and brief unconsciousness characterized the epileptiform attacks. Died on the 10th day. During last three days pulsations of veins varied from 80 to 130 per minute. Faint fluttering sounds over third interspace to left of sternum synchronus, with visible auricular pulsations. At autopsy, hypertrophy and dilatation of left auricle and ventricle and right auricle, hypertrophy of right venticle, mitral insufficiency. Increase of adipose tissue in pericardim over right ventricle and adjunction of auricles and ventricles. Fatty degeneration and infiltration of walls of right ventricle, less so of left. Acute exudative nephritis, with fatty changes. Liver showed slight intestinal hepatitis and fatty degeneration of liver cells.

TOXIC ACTION OF ETHER AND AMYL NITRITE.

ETHER injected intravenously is more toxic than chloroform. Its greater safety when inhaled is due probably to its looser combination and to the fact that it is eliminated more rapidly through the lungs. Drs. Muehlberg and Kramer, (*Journal A. M. A.*, June 22, '07) conducted experiments on rabbits and found of ether that 2 minims intravenously are fatal, as much as one dram can be given subcutaneously without danger. A much larger dose is possible by inhalation carried over an extended period of time than a smaller dose entering the circulation suddenly. Ether kills by direct cardiac paralysis, by vasomotor paralysis or by vagus stoppage of the heart. Intravenous injections cause fall of blood pressure from weakening heart's action and stimulation of vagus center. Injection into carotid causes convulsions, anesthesia and cessation of respiration and fall in blood pressure. With the vagi cut such an injection causes convulsions with rise in blood pressure. He concludes from these statements that death in early part of anesthesia is due to direct action of ether on the heart, vasomotor stimulation and constriction of arterioles or vagus center stimulation. These dangers can be avoided more easily with ether than with chloroform because it can be diluted more. In case of circulatory collapse it is necessary to unload the heart of blood containing the overdose of ether, to assist elimination by artificial respiration and to dilate the blood vessels. This is done quickest by amyl nitrite. Their experiments show that although amyl nitrite lowers blood pressure yet the increase in size and strength of heart's pulsations more than compensates, and also a lowered blood pressure is not so dangerous as a large amount of etherized blood remaining in the heart. A two per cent. amyl nitrite solution was used with ether and seen to have much less effect on respiration, due probably to dilatation of cerebral arterioles and better blood supply to respiratory center. Amyl nitrite has no beneficial effect used with chloroform. Sudden deaths reported from injection of ether or chloroform for sciatica are probably due to vasomotor paresis rather than true cardiac failure.

GASTROPTOSIS AND ITS TREATMENT.

Gastroptosis, though frequently overlooked, is a common cause of invalidism in women. It is frequently associated with displacement of other viscera, especially right kidney and transverse colon. To make an absolute diagnosis the position of pylorus and lesser curvature must be determined, for if they are in normal situation the condition is partial gastroptosis rather than complete. Symptoms are those of atony, with motor insufficiency, gastric retention, fermentation and constipation. Appetite poor and patients weak from malnutrition. Hysteria and neurasthenia frequently accompany the condition. Treatment is prophylactic at first. Clothing must not force the viscera downward, and care must be taken in applying the binder after confinement so as to allow muscles to regain their normal tone. Treatment proper is mechanical and should be accompanied with rest cure. An abdominal bandage is frequently applied. Adhesive plaster is cheap and easily applied. Some corset forms, with pads to exert pressure, are very beneficial. Diet should be nutritious and easily digested. Meals of soft diet at frequent intervals do not tax the motility of the stomach and pass readily into the intestine. Lavage is useful in fermentation from retention. Hydrotherapy, massage, electricity, gymnastics may all be tried. Surgical treatment is also recommended in this article by Dr. Gilbridge, *American Medicine*, March, 1907.

THE GROWING PAINS FALLACY.

Westbrook urges a more careful examination of children who are afflicted with growing pains and shows that these will be found to be due to endocarditis, rheumatism, tubercular joint or bone disease or to sepsis. These are the same cases that, taken during the growing pain period can be saved, but if the easier course is taken, and the lay or mischievous medical diagnosis is held, go on to a fatal end in a very great number of cases. He advises (*Brooklyn Medical Journal*, May, 1905) that several months' absolute rest be given, on a Bradford frame if necessary, for cases of endocarditis in children, and that very guarded exercise be taken for a year. In conclusion, he calls for a correct diagnosis or a confession of ignorance in place of the slipshod growing pain loophole.

TRAINED NURSING IN JAPAN.

Mrs. Harriet A. Townsend, of Honolulu, contributes an article in a recent number of *Hospital Topics* on "Hospitals and Medical Missions in Japan," from which we quote a few paragraphs:

The training of women nurses in Japan began in 1892. From a friend residing in Tokio I learn that there are one hundred women physicians in Japan; not all are practicing; however, the woman doctor does not meet with great favor. There is an association of women physicians numbering thirty in Tokio, and a sort of a medical school for women, which does not as yet hold very high rank. The Woman's University, with several hundred students enrolled, is visited daily by a woman physician, and she is increasing interest in the study of medicine.

Book Reviews.

Clinical Therapeutics, a Handbook on the Special Treatment of Internal Disease, by Alfred C. Crofton, Author of Clinical Urinology. Second Edition, Revised. Cleveland Press, Chicago, 1907.

This second edition of Dr. Crofton's work was made necessary within a few months following the first. No greater tribute, we think, could be paid the book.

Space forbids a very lengthy review of this work, and we will therefore be compelled to briefly call attention to its worth in a general way, rather than to specify or go into details, which could safely be done to the edification of all medical men.

In the first place, we think, to call the work a handbook is an injustice. It is more, a text-book, or is destined to be when it is known.

Then, again, the author has made a new departure, enlarged the usual scope of works in therapeutics. We find the etiology of such diseases as he treats, as well as very valuable references to the pathology. It becomes, therefore, more a work on practice.

It is a source of great satisfaction to follow the treatment advocated by Dr. Crofton. He believes in medication when indicated, and very sensibly thinks it indicated very often. This is wholesome in this day of so much of therapeutic nihilism. It is doubtless true that formerly too much medicine was given, while now other measures, wise and helpful, often of themselves are relied upon to too great an extent, in the care of the sick. As we more clearly understand the physiological action of drugs we more scientifically apply them to meet conditions, and are rewarded with desired results. Organo and serumtherapy are given their proper place in treatment. Dr. Crofton's book shows a healthy mind; the true sentiment which should work great good to the medical profession. The work is exhaustive in its chosen field, contains over six hundred pages, is printed upon excellent paper with fine clear-cut large type, and handsomely bound. We heartily commend it to all engaged in internal treatment.

International Clinics. Vol. III. Seventeenth Series. 1907, J. B. Lippincott Company, Philadelphia.

This volume of the Clinics contains four contributions on treatment; five on medicine; five on surgery; two on gynecology; three on genito-urinary diseases; three on ophthalmology; one on neurology; one on dermatology, and one on pathology. There are some three hundred pages, including index; the volume handsomely illustrated; printed on the usual good paper and bound in cloth. There are too many articles for a magazine review, while to select any one or more from so excellent an array would not convey an adequate idea of the scope and worth of the contents of this volume.

Immunochemistry. The application of the Principles of Physical Chemistry to the study of the Biological Anti-Bodies by Svante Arrhenius. The Macmillan Company, New York, 1907.

This volume of some three hundred pages embraces a summary of six lectures on immunity reactions, delivered at the University of California during the summer of 1904, the object of which was to illustrate the application of the methods of physical chemistry to the study of the theory of toxins and antitoxins. The author believes that the reciprocal action is chemical rather than physiological. The subject is of intense interest. Opposed to Arrhenius and Ehrlich, Metchnikoff contends—and with plausible theory—that the effect of an antitoxin is chiefly at least physiological. Here is the difference of the two great schools, the German led by Ehrlich, the French by Metchnikoff and, until recently, Bordet. As stated above the subject has not yet been definitely determined, but remarkable progress is being made, and this work by Arrhenius must command a prominent place in the discussion. The literature is not complete without it, and we therefore commend the book to all those interested in immunity.

Heart Disease and Blood-Pressure, a practical consideration of Theory and Treatment, by Louis Faugeres Bishop, A.M., M.D. Second Edition. E. P. Treat & Company, New York, 1907. Price $1.

This small work contains much of value to a proper understanding and cure for those suffering from low and high blood pressure. The author is well known to the medical profession as a careful and painstaking practitioner and teacher. His work deserves careful and general reading, which it will doubtless receive.

THE
Department of Trained Nurse.

WITH SPECIAL REFERENCE TO THE RELATION OF NURSE TO PHYSICIAN

Edited by FRANKLIN W. BARROWS, M.D.

CHRISTMAS.

"I AM sure I have always thought of Christmas time, when it has come round—apart from the veneration due to its sacred name and origin, if anything belonging to it can be apart from that—as a good time; a kind, forgiving, charitable, pleasant time; the only time I know of, in the long calendar of the year, when men and women seem by one consent to open their shut up hearts freely, and to think of people below them as if they really were fellow-passengers to the grave, and not another race of creatures bound on other journeys." CHARLES DICKENS.

THE LOYAL PHYSICIAN.

JUDGING by many of the speeches and papers in current literature, the doctor is simply lost in admiration of "the loyal nurse," so far gone, indeed, that he sometimes forgets that there is any such a virtue as loyalty demanded in the physician. Behold the loyal nurse! Let the nurse be loyal and all is well.

Thus the disloyal physician enjoys and commends the virtue of loyalty in the nurse—a virtue which he has done nothing to inspire and everything to discourage. His personal dealings with nurses are, if he would but analyze them, selfish, underhanded, unprofessional; and he is demanding, perhaps unconsciously, a sort of fidelity which is equally unprofessional in the nurse.

The up-to-date training school never neglects to instruct and warn the nurse, at some time before she graduates, concerning her obligations and duties to the medical profession. This is a good thing, and usually pretty well and faithfully attended to. But we hear little or nothing of any like attention, in medical colleges, to the inculcation of an answering loyalty in the physician.

In view of the very significant part that nurses will have to play in the successes and failures of the physician, is it not desirable that the lectures on medical ethics should convey to the prospective doctor a synopsis of the ethical principles which guide the best representatives of the medical profession in their relations with the nurse?

One of our correspondents in alluding to this matter states a principle that is often ignored by the best of doctors. It is well worth quoting as a contribution to the course in ethics which we have just suggested. He says:

> "I do not send trained nurses to care for patients in unfavorable surroundings (if the patient can be moved to a hospital) unless it is a visiting nurse, who remains with the patient but a short time. In getting a nurse for a patient we must consider the nurse as well as the patient. If a patient insists on remaining in unfavorable surroundings and refuses to go to a hospital, we have no right to expose a nurse to the effects of the same surroundings. Even with visiting nurses—if I believe the patient would do better in a hospital, I expect the patient to abide by my judgment and relieve the nurse of hard work against great odds. There are, of course, many modifying circumstances that may compel a patient to remain at home. Then it is

> our duty to provide him with all the necessary care."

This sentiment has the true ring. And we wonder how many doctors can truthfully say that they make it a rule to exercise a like concern for the comfort and safety of the nurses who work under their direction.

QUEEN VICTORIA'S JUBILEE INSTITUTE.

It will interest those who believe in the encouragement of district nursing to glance at the figures which show the vast extent of this great institute, under the able superintendence of Miss Amy Hughes. A year ago there were 1,385 "Queen's Nurses" on the roll and working under the direction of 745 local associations. The work extends all over the British islands and continues to broaden. Nurses are working with the highest degree of success in the poorest districts of Ireland, as well as in the great cities. In commenting on this movement the *British Journal of Nursing says:*

> The scope and opportunities of district nursing widen every year, and there is hardly a scheme for the improvement of the hygienic and social conditions of the poor, in which the district nurse does not find a natural place, while her co-operation is sought in all movements for the education of the poorer classes in improved and healthier conditions of life.
>
> The Report of the Institute shows it to be a growing power for good on all sides, and, indeed, its capacity for usefulness seems almost limitless, provided that it obtains the necessary financial support. It is difficult to imagine an institution upon which such support could be to greater advantage bestowed.

Inspired by such an example, Canada has a similar association, with a record of phenomenal usefulness. It will be a good day for our own country when the opportunity comes for inaugurating the work here.

WHEN NURSES SLEPT ALL NIGHT.

There were some advantages in the "good old days" a century ago. Those were good old nights, too, for the nurses didn't have to "watch." But how about the patients? Perhaps they used to grumble on those old nights more than their successors of the present age, if that be possible. Or, were they good enough to put up with neglect and to be thankful for a few mercies?

This little picture of those times, in the *British Journal of Nursing,* is quaint and curious:

"At the dinner at the Savoy Hotel, held in connection with the opening of the winter session at the London Hospital, Mr. Eve, who presided, gave an interesting account of the hospital as it was just 100 years ago, which was based upon some documents which have recently been unearthed by the secretary, Mr. E. W. Morris. Among the more curious points mentioned were that at that time only two meals were served a day, breakfast of water gruel and bread and dinner consisting five days a week of meat and on two of pea soup. The hospital secretary was also chaplain, and responsible for the interment of deceased patients in the hospital grounds. The funerals had to be attended by such patients as could leave their beds, and an entry showed that on one occasion the clerk had been reprimanded for reading the service over a number of bodies together instead of separately. At night the wards were left unattended, for the nurses, then known as watchers, were only on duty in the daytime. The head porter and matron had their meals together, living on the leavings of the apothecary. The latter, a person of great importance, was allowed to take pupils, who slept under the counters of the dispensary. A black book was kept, in which were recorded the names of patients who ran away to avoid the terrors of an operation."

THE STATUS OF NURSING AS A PROFESSION FOR NEGROES.

The *Southern Workman* for October contains an excellent study of "Some Labor Tendencies in the South," by G. S. Dickerman. He tells of an awakened interest in work all through the Southland, and compares the white race and the negroes with reference to existing labor problems.

The Gazette has printed a number of articles on the training of negro women for the profession of nursing, and our readers will be interested in that portion of Mr. Dickerman's article which deals with this question. He says:

"It is noteworthy that the occupations which were once given up to the slaves do not now seem attractive to the more intelligent and well-educated negroes. In some of these occupations the prevailing sentiment gives them the preference over white laborers, so that they have a certain advantage in the competition. But they do not care to avail themselves of this.

"We have an illustration of this in the calling of a professional nurse. The negroes have had a monopoly of this business in all those parts of the country where slavery prevailed. Especial honor also was given to this occupation. A large share of the responsible duties assigned to the educated physician in other parts of the country were there entrusted to the negro nurse; and I am told by well-informed practitioners in the South that this continues to be the case down to the present time, people of wealth and social position often depending upon their nurse to carry them through critical times which a Northern family would not think of meeting without the offices of the ablest physician obtainable. Being held in such confidence as this among the white people, the nurse is of course a person of very great influence among those of her own race. She is their natural counsellor in all the most serious and delicate affairs of the home and the community, and if she has the desire of being useful to her own people, the opportunities are without limit.

"Another motive which should have some weight in favor of this vocation is the necessities of the negro physicians, who are growing in number and influence. White practitioners are dependent in these times on trained nurses for much of their highest success; how can negro physicians do their work unless they also can have nurses to assist them? And how are the sick and dying among the negroes to be properly cared for according to the usages of the present time without this indispensable auxiliary to the medical attendant? These are vital questions in the life and experience of all who belong to the negro race. And they are questions which are to become more pressing and serious in the immediate future.

"Yet the young women of the negro race do not generally incline to this calling. Considerable pains have been taken to provide schools of training for this profession among the negroes in many places in the South. One of the earliest of these is that connected with the Dixie Hospital at Hampton; another is connected with Spelman Seminary in Atlanta; others may be found in Richmond, Raleigh, Columbia, Charleston, Louisville, Nashville, Tuskegee, New Orleans and many other cities, always identified with hospitals particularly appropriated to the care of negro patients and usually under the care of negro physicians. Should we not expect that the ablest and most ambitious of the young colored women of the South would be eager to enter upon a course offering so much? And should we not expect that the negro people in general would look upon these hospitals and nurses' schools as institutions of the highest importance and the greatest promise for the coming time? But if you become familiar with the story of these little struggling enterprises, you will find that it is not always so. In almost every case will be seen one or two persons of clear vision and steadfast faith who are putting their lives into the work they have undertaken; sometimes a gifted woman who has received her training and inspiration in one of the best hospital schools in the country; sometimes a physician with large conceptions of the meaning of his profession as embracing the manifold wants of the people; but usually it will appear that they have not the support that belongs to so worthy a cause, and not infrequently you will be told that one of their difficulties is to get the kind of young women they want to take the course of training.

"I have been examining the alumni records of a number of the most notable schools for negroes to see how many I should find who were in this profession. I found a fine array of those who are teachers, ministers, physicians, pharmacists, dentists, lawyers, and the like. But those pursuing a nurse's calling were conspicuous by their absence. In the most notable school of all, perhaps, with the longest list of graduates, I found not one. In two other schools of similar prominence, the name of a single nurse was given in each, and in another there were three. This shows how small a place this profession has in the thought of these young women of highest culture who are looked to for leadership among their people.

"Consider now the significance of this vocation independently of all distinctions of race. Every calling should be considered in this way before we finally pass upon its importance.

"The hospital school and trained nurse belong to the world's new order. Forty years ago there was not such a school in all America. About 1870, two or three were started, and for a number of years they were kept going with great difficulty. The last report published by the United States tells us that in 1905 there were 862 of these schools, in which there were 19,824 pupils, of whom 5,795 were graduated that year. All this growth in so short a time! Point to any other educational development of the period which speaks more plainly of a new order. The present day usages for the care of health, treatment of wounds, and care of disease are so far in advance of all that were followed even twenty years ago that one can hardly imagine the difference. This is due in no small degree to the army of trained women who from year to year come forth from these hospitals to assume their quiet but blessed ministry. And what we see now is only the beginning of what we are to see. Call to mind the heroic and holy service of Elizabeth Fry, Florence Nightingale, and Dorothea Dix, who were the earlier apostles of this movement; how wonderful is the harvest from their sowing! Now their number is multiplied by thousands and all the world is waking up to the possibilities of a womanly ministry carried on in a womanly way. In time this ministry is to spread more widely, penetrate more deeply, and bring to the diseases of mankind a touch of mightier healing.

"And this ministry is coming into the South, and coming fast. Does any one question this? Then turn to another class of nurse schools that are appearing—hospital schools for the training of white women. When the first schools for the training of negro nurses were started, there were no schools for the training of white nurses further south than Virginia. The Report of 1905 names sixty-three such schools, with 890 pupils, of whom 287 were graduated that year, and all of them south of Virginia. Does this not speak of a new order—this going forth of nearly three hundred Southern white women to their chosen vocation of attending the sick? And the meaning of this to those fine young women! Are they taking upon them a slave's tasks, or entering on a service that will harm their dignity? Far from it, they are rising into the ranks of the noblest souls of every age, into the ranks of those who spend themselves in behalf of others and so win the most fadeless laurels that are held out to our aspiration.

"Can it be that the highly cultivated young women of the negro race have thought that this vocation was somehow a continuance of the old order, and so have shunned it? Such an hallucination should pass away.

"Movements like this do not go backward. Their trend is forward with ever added momentum. Already there appear to be in the South, in the lower South, three or four times as many white women who are taking hospital training as there are colored women. Soon there will be ten times as many, and then, doubtless, twenty times as many. White nurses will be filling most of the more lucrative positions; they will be serving on sanitary boards in the cities and larger towns; they will be engaging in missionary activities as district nurses among the poor; they will be heading projects to clean up slums, to remove the children of vice to healthy country homes, and to make over young criminals into good citizens. This is the story that is already being enacted elsewhere; what is to hinder its being repeated in the South? When all this has been brought to pass, the calling will grow attractive. The ablest and most brilliant will see that it offers to their ambition such a career as can be found in hardly any other occupation. And then the honored title of 'trained nurse' will begin to be seen more often in the rolls of the graduates of negro universities.

"Something of the same kind is likely to be the story of other callings which are now discarded as not honorable. A few persons of more courage and higher faith will take them up, discover in them unexpected advantages by which they will rise to power, and at the same time lift the calling into favor; then the timid and the doubting will learn by their example and try to follow after them.

"Now, is it not better to be pioneers and leaders in such fields than mere copyists? There are a good number of such pioneers among the negro people. You can see them at the conventions of negro business men which are held every year, men who have begun with some common sort of work which they have carried on for a time in a small way till it grew and they grew with it, finally become prosperous and even rich. One of these pioneers is that graduate of Atlanta University who went out to Texas and began to talk with the negro farmers about cultivating their farms better and making their homes more attractive; there is no need for me to give an account of the results that have followed. Another pioneer is that negro woman who consecrated herself in childhood to the care of the sick and pursued her course of training steadily with this end ever in view for twenty years, acquiring first the art of a nurse, then that of a physician and surgeon, receiving her diploma from the Woman's Medical College of Philadelphia, and going thence to the capital of South Carolina when there was not another woman, white or colored, who was practicing this profession anywhere in that whole State; succeeding of course, for when did a person of such indomitable spirit entering into so noble a service not succeed?

"No question of the hour is more vital than that of awakening such a pioneer spirit and encouraging such pioneer undertakings. I do not believe that negroes are lacking in such a spirit; there are too many examples of it to which we may point. What is lacking is those persuasive influences which would impel them to such a choice, and the practical encouragement that would enable them to carry such a purpose into execution. How to supply these may well occupy the attention of all friends of the negro."

CLINICAL DIAGNOSIS FOR NURSES.

By Albert T. Lytle, M.D.
Buffalo N. Y.

(Continued from page 620.)

"Vomiting" and "emesis" are terms applied to the expulsion of the contents of the stomach through the gullet and mouth. Emesis is often preceded by a sick feeling called "nausea." Both of these signs are intimately associated with the stomach due to its irritation, yet not infrequently the cause producing them is a disturbance in some organ distant from the stomach, or to a general poisoning of the organism. Sometimes people are unable to vomit at all, although sufferers from almost intolerable nausea.

Nausea and vomiting are probably controlled by a special group of nerve cells in the brain—medulla oblongata—called the "vomiting center"; practically every important organ in the body is connected with this center, any irritation of which produces one or both of these symptoms. The mechanism of vomiting is a sudden contraction of the diaphragm and the muscles of the abdomen at the same time that the cardiac opening of the stomach relaxes. The contents are thus driven upward through the esophagus and out through the mouth and sometimes the nose.

Nausea and vomiting are always the result of abnormal conditions, but their significance in a given case may or may not be readily determined, may or may not be serious; accurate observations and reports of the nurse are therefore of importance in the determination of their import.

Infants and little children vomit very frequently, thereby drawing attention to the stomach, although emesis is likely to be seen with almost any deviation from health. In infants, owing to the peculiar position of the stomach, vomiting occurs on slight provocation even without any sign of disease being present, such as over-filling of the stomach; this kind of vomiting comes almost immediately after feeding, is attended by no preceding disturbance, is without effort and the food is expelled unchanged. Violent movements, such as tossing, trotting or upending as well as undue pressure over the babe's stomach will often excite vomiting. It is also caused by the pharnyx being tickled by the finger of the child or other thing, as during teething. Any obstruction to the normal onward movement of the contents of the intestinal canal, such as the sliding of one portion of the intestine into another—"intussusception"—is accompanied by vomiting, which is often a first and a most persistent symptom. It is an early and important sign of the onset of acute infectious diseases, such as measles, scarlet fever, diphtheria and meningitis. It also is a common accompaniment of constipation and poisoning from improper food or improper feeding with or without attendant gastric disease.

The presence of food within the stomach is not essential for the act of emesis, as shown by the morning vomiting of habitual users of alcohol and the "morning sickness" of pregnancy. The constant recurrence of nausea or even of vomiting without any relation to the food contents of the stomach or to the taking of food is frequently the first notification of the presence of kidney disease. Vomiting attending unusual sights, sounds, odors or other psychical influences also occurs regardless of the condition of the stomach as to food. Severe bruises or injuries; sudden large loss of blood—anemia—as in uterine hemorrhage; cough like whooping cough or that of tuberculosis or that of chronic pharyngeal catarrh, all may cause nausea and vomiting from an empty healthy stomach; excessive eye strain such as that produced by the watching of moving pictures, and the pressure on loose kidneys by improper dressing are frequently followed by nausea and vomiting in an otherwise normal viscus.

The nurse should use her influence as far as possible to prevent the laity from taking all kinds of "aids to digestion" and "cures" for indigestion and dyspepsia, or from foolish regulation of the diet; for, as shown by the small number of examples enumerated, gastric symptoms are very often pronounced where the digestive powers of the stomach are actually normal. The taking of drugs, to act upon digestion, for the relief of the symptom nausea or vomiting will not relieve it, while they more than likely add to the pathological picture an actual disturbance of digestion.

More often nausea and vomiting take place when food is in the stomach, always so when the primary cause is in the stomach —that is, no stomach contents, no vomit. It may come on shortly after food has been taken, in from a few minutes to a few hours, as in acute gastritis or in gastric ulcer or in cancer; it may take place in from many hours to days after certain food has been swallowed, as in chronic gastric catarrh, in dilitation and in obstruction to the outflow into the intestine. Vomiting soon after the ingestion of food accompanies disturbances of the liver, pancreas, ptomain poisoning and acute gastritis. Particular food substances may always cause nausea and vomiting in certain individuals, due to personal idiosyncrasy.

Vomiting may be continuous, as occurs in "bilious attacks," in intestinal obstruction as from "rupture," in some brain diseases as tumors, and in poisoning as from bad ice cream and canned fish. It may be at nearly regular intervals as in gastric dilitation or at irregular periods as in mild gastric catarrh and in dietetic indiscretions.

The onset may be sudden, as in cerebrospinal meningitis, in acute poisoning, and in accidental injury to some internal organ, as the kidney or liver. It may come on only after a longer or shorter period of nausea, as in "biliousness," "sick headache," gastric catarrh and gout.

Vomiting may be "projectile," the stomach suddenly ejecting the contents almost as water is thrown from a hose pipe by the force pump, seen in "spotted fever," or it may occur in mouthfuls after long "retching," as in the chronic catarrh of alcoholism.

As nausea and vomiting are due to conditions of so great diversity and of such varied import—from that of a slight dietetic indiscretion like a midnight dinner to that of such grave disturbances as nephritis and puerperal eclampsia, from the harmless safety valve action of the infant's overful stomach to the terrible purport of the projectile vomiting of epidemic cerebro-spinal meningitis—the nurse should note carefully all the facts with reference thereto and advise the medical attendant promptly if the onset be unexpected.

"Vomitus" is the name given to the materials ejected in the act of vomiting. The quantity of the vomitus will of course depend upon the amount of matter present in the stomach at the time of emesis; it varies from almost nothing, as in the retching of "morning sickness," to several pints in the case of a greatly dilated stomach. The fluidity of the vomit varies according to the substances in the stomach from a thin, clear, watery mucus in cases of excessive secretion of gastric juice and in cholera, to a thick pultaceous mass in cases of acute indigestion from overeating or to a solid massive "curd" often ejected by an infant.

The color varies according to the color of the food taken, as from colorless as water through the yellows and reds to brown or black in cases of cancer and in hematemesis. Such food substance as beets, cherries and grapes color the vomitus a reddish hue that is not infrequently mistaken for blood. Coffee, cocoa, chocolate often color the vomit so that is is mistaken for "coffee ground vomit" of cancer. Iron taken as medicine may cause the vomit to appear as black as ink. In mucus vomiting the mucus is frequently stained or streaked with blood, as in the vomit from poisons like corrosive sublimate and carbolic acid. The vomit is very often stained yellow or green from the presence of more or less bile; this is very common where emesis has continued for some time or has been very violent, and where retching has been marked. When the vomitus is blood alone the vomiting is known as "hematemesis"; the color varies from bright red if fresh, as in sudden hemorrhage from gastric ulcer, to brown or coffee colored as in oozing from an ulcerating cancer, or to black if the blood has been acted upon for some time by the gastric juice. Hematemesis must not be confounded with hemoptysis.

The odor of the vomit is often a very important factor in determining the nature of the vomiting. In cases of poisoning from drugs, whether accidental or designed, vomiting usually ensues, especially so if an excessive dose has been taken, and as many drugs have more or less characteristic odors, they may be easily detected in the vomitus; for example, carbolic acid, bitter almonds, chloroform, ether and others. Drugs given as medicines frequently add their odor to the vomit, as asafetida, valerian, phosphorus (garlic), while many foods also give their peculiar odor, as onions, leeks, parsnips, cheeses, beer, wine, whiskey. The peculiar sour odor of acid fermentation, the pungent smell from the decomposition into sebacic acid of the fats and oils ingested, is very pronounced in the indigestions of children. The "dead" odor in cases of ulcerating cancer and in bloody vomit; the odor of feces when there is vomiting due to prolonged intestinal obstruction; the "decomposed urine" or ammoniacal odor in the cases where uremia is present, all point to the advantage to be gained from careful use of the sense of smell in caring for the vomit.

The character of the vomit varies according to the nature of the food taken and the degree to which digestion has advanced. In a perfectly normal individual the stomach contents, considering the coloring of the food and the time elapsed since taking, is a yellowish, pultaceous, fluid, homogeneous mass of the consistency of thick soup. Abnormally it may show large portions of food still unacted upon by the juice of the stomach, such as lumps of bread, small chunks of meat, masses of vegetables; the seeds and skins of fruits, the "gristle" and bone of meat and the woody parts of vegetables are hardly subject to digestion, but they should be noted as being present. The mucus produced in the stomach is largely digested, so that the presence of large quantities of mucus in strings, flakes or clumps should be sought and reported if found. The presence of large curds, hard and tough, especially in milk fed children, should be noted so that means may be taken to prevent their formation. No bile is normally present in the stomach, hence its occurrence in the vomit should be jotted down. The presence of blood in streaks in the mucus, in clots or as "coffee grounds," has only to be mentioned to impress the importance of reporting it as promptly as possible. Feces in the vomit is a rare occurrence and a sign of marked gravity; the physician, too, should be notified immediately. Pus is sometimes ejected as the result of the rupture of an abscess of some neighboring structure into the stomach and its occurrence should be reported at once. Occasionally parasites, such as round worms, pin worms and parts of cysts from parasitic disease of liver or spleen breaking into the stomach are seen in the vomit; any such abnormal object should be preserved for exhibition to the attending doctor. In fact, any unusual looking vomit had better be held for the investigation of the medical attendant. When vomit is allowed to stand it separates into layers, the bottom being the food contents, the next above a clear watery mucus layer and the top a varying quantity of air containing mucus; a note should be made of the proportion of each, as such may have a special value in considering the condition of the stomach.

(To be continued.)

200 Lexington Ave.

THE NURSING OF CHILDREN.

By Miss Minnie Goodnow,

Directress of Nurses, Milwaukee County Hospital Training School for Nurses, Wauwatosa, Wis.

(Continued from page 696.)

Nursing in Abnormal or Diseased Conditions.

HERNIA.

Hernia is not an uncommon occurrence among young children. It is rarely due to prolonged crying, as the laity usually think, but quite as frequently to constipation, or to distension from indigestion; it may also be caused by phimosis. Umbilical hernia is the most common. A hard circular pad, held in place by strips of adhesive plaster, makes a good truss. A firm binder should be worn over it. Any sort of an elastic band is quite useless. Attention to the bowels and having the child sleep with the hips elevated also assists in the cure. Several months' time is needed to correct the trouble, but the condition rarely persists if proper care is given.

Inguinal hernia is more troublesome to manage, as it is difficult to keep a pad or truss in place on a small child. In these cases a hard rubber truss is probably the most satisfactory. The same care is necessary as in a case of umbilical hernia. Circumcision should be performed if there is the slightest indication for it.

CONSTIPATION.

Constipation is the modern bugbear, and not without some reason. Neglect in this matter is productive of most serious results, both temporary and permanent. It must never be allowed to become a habit.

Proper diet is the one effective and rational remedy. The physician is the one to advise in this matter, but the nurse must conduct the observations which are to decide the effectiveness of his methods.

With a breast-fed baby, the mother's diet must be regulated and her bowels kept free. For some unexplained reason the foods which are laxative to the mother make her milk laxative to the child. Fruits are appropriate, especially sweet oranges, apples, peaches, sweet plums, grapes and pineapple; bananas and berries are not desirable. The green vegetables may be eaten—lettuce, spinach, celery, tomatoes (if thoroughly ripe), string beans and tender green peas; such articles as cooked cabbage, baked beans, canned corn, pickled beets, etc., are better omitted. Some of the coarser cereals, as oatmeal, if well-cooked, and graham bread or gems, if served cold, may be used. A full glass of water, either hot or cold, taken in the morning upon rising has an excellent effect.

If regulation of the mother's diet is not sufficient, massage of the baby's abdomen is probably the next best procedure. It should be done gently, with the tips of the fingers (using a very little oil if desired); begin at the right side of the abdomen, and with a kneading or rolling motion work upwards and around, following in a general way the direction of the colon; as the child becomes accustomed to it, deeper pressure may be made, care being taken not to pinch the skin.

Half a teaspoonful of olive oil once or twice a day is an effective and harmless remedy. Or a few teaspoonfuls of oatmeal water (made by boiling a tablespoonful of rolled oats in a quart of water for an hour, and straining) may be used.

To a child of six months or more fruit juice may be given as a laxative. A teaspoonful of orange or pineapple juice, diluted, given twice a day, half an hour before nursing, may be all that is required.

A bottle-fed baby may have oatmeal water added to its food at any age; or, after the first few months, fruit juice may be given before meals.

These simple remedies almost never fail to relieve habitual constipation; yet they are often neglected because of their very simplicity, or because they are "too much trouble."

Constipation may be relieved temporarily by an enema of plain water, salt solution, or soapsuds, or by a suppository of glycerin or gluten, the latter being preferable for small babies.

A cathartic or laxative drug, even though it be as simple as senna tea, should never be given except upon a doctor's order. These things are not dangerous *per se,* but the habit of giving them is formed so easily that safety lies only in adherence to a hard-and-fast rule.

DIARRHEA.

Diarrhea from one cause or another is a common ailment, with frequent disastrous results. The disaster usually occurs from treating the symptom and not the cause. Diarrhea in any form is due to an irritation of some sort, and will not disappear as long as the source of the trouble is permitted to remain.

A nurse or a mother may, with perfect propriety, give a dose of castor oil upon the appearance of a diarrhea. This will often remove the offending material and right matters. (It is not necessary to disguise castor oil in giving it to small children; they almost invariably take it without difficulty.) Remember that one can hardly give an overdose; a small dose may simply disturb and prolong the looseness of the bowels, when a larger one will relieve in a few hours.

Rice water (made like oatmeal water) may be given before or with food, and frequently is efficient.

Ordinarily, all food should be stopped for several hours, or even for a day, and water only given. Do not immediately resume the feeding of milk, but give albumen water instead. (This is made by stirring, not beating, the whites of two eggs into six ounces of water.) A baby can live very comfortably on this for some time, and it is safer than to give milk foods.

Cool enemata of plain water are wonderfully effective in all sorts of diarrhea, and may be given by any one with perfect safety. Several ounces given slowly and expelled may be appropriately given every four or five hours. This treatment is especially adapted to older children, and often affords relief when other remedies have failed.

In a case of diarrhea where there is prostration or any constitutional symptoms, the physician should be summoned without loss of time.

DYSENTERY.

In dysentery, the doctor must direct the care. Milk foods are withdrawn, and in their place are given barley or rice water with egg albumen, beef juice, liquid peptonoids, etc. Astringent enemata or colonic flushings are usually ordered, and must be carefully and regularly given. A Kemp tube may be used, if a small enough one can be obtained, or a double catheter; or, the solution may be introduced, and when expelled more given until it returns clear. The double tube is preferable, as it produces less irritation at the anus. The napkins must be changed promptly when soiled, as the stools very readily cause chafing.

It is now well established that dysentery is caused by a definite bacterium. The nurse must therefore exercise the greatest possible care to avoid the spread of the infection to other children, and must recognize the danger of reinfecting her own patients. It is possible for a dysentery to be kept up almost indefinitely by simple neglect of cleanliness.

The hands must be washed after each changing of the napkin, and before the preparing or giving of food; also in going from one baby to another. All bedding and clothing, especially the napkins should be well soaked in disinfectant before being sent to the laundry. Dysentery cases should be isolated, and the nurses who care for them should no nothing for other children.

CHOLERA INFANTUM.

Except in severity, cholera infantum is not unlike other diarrheal conditions. In this disease, and in dysentery, there may be temperature enough to require hydrotherapic measures. A cool sponge bath may be given, just as for a typhoid case, except that the water should not be too cold and the time not over ten minutes. If the child does not bear sponging well, a cold pack may be used; this is done by wrapping the child in a cool wet sheet or large towel, covering with a blanket, and leaving for fifteen or twenty minutes. A "fan bath" may also be employed; the patient is wrapped or covered with the wet sheet or towel and then fanned vigorously, the evaporation producing the fall of temperature. A cool tub bath should not be given to a child.

In these cases the clothing should be very light. A shirt and a diaper is sufficient if the weather is at all warm. A thin slip may be used, but no petticoats or pinning blankets.

Calomel is commonly given in this disease, and the nurse should not be surprised if large doses are ordered. Children bear very large doses of it in proportion to age.

Colonic flushings of cool salt solution or an astringent are much used. A continuous irrigation of salt solution may be ordered; for this, one must use a soft rubber catheter, insert it pretty high up, hang the fountain bag very low, and clamp the tube so that it will run drop by drop; in this way a large amount will be retained and will be rapidly absorbed.

Milk foods are always abandoned, and nursing babies taken from the breast. No nourishment at all may be given for twenty-four hours, and then some dilute food begun. Plenty of water to drink must always be supplied.

MENINGITIS.

Meningitis, of whatever origin, requires the best of nursing. Cold baths for temperature must be gently given; bright light must be excluded from the room; sharp, loud, or sudden noises in the vicinity must be prevented. Sedatives are usually ordered for the convulsions or muscular rigidity, and these frequently require to be given by rectum; great care must be exercised to have them retained. Regularity in feeding and exactness in carrying out orders must be secured. Any new symptom must be promptly reported. These cases need careful watching and two nurses are usually necessary. Under the best possible conditions a large percentage of the cases are fatal. Many of the serious sequelæ can be prevented by good nursing.

(*To be continued.*)

THE MEDICAL PROFESSION AND THE TRAINED NURSE.*

By J. C. Young, M.D., M.R.C.S., M.R.C.P.,

Cuba, N. Y.

As the pendulum of the world's thought swings backward we see some very remarkable changes which have taken place in the last half century. Especially marked has been the change in the last 25 years. Some scientific investigators claim that this world is now about six thousand years old. Others claim that this is a mere fraction of the age of the world, and it were better to say sixty thousand, six hundred thousand, six million. Let that be as it may, and while we hope and expect far greater and more important discoveries in the near future than have been in the recent past, yet so far as mankind is at present able to learn no years in all the history of the past have been nearly so good as the years which have been given to us. The question which would naturally come to one's mind as fitting a meeting of this kind is: "Has the advancement in medical lines kept pace with those of other callings and avocations of life?"

If the change is estimated by the safety and benefit to mankind through the prevention of disease and suffering, the lengthening and saving of human life, there is a decided and marked advancement.

Then I am but voicing the sentiments of all present when I say that in medical lines the progress and advancement during the last half century exceeds that of any other period.

The whole science and art of medicine and surgery has been and is still undergoing many changes and the trend is toward preventing disease and saving life. At the present time it seems passing strange to look back upon methods of 50 years ago.

We think now about the germ theory of disease; about what antiseptics have done and are still doing in medicine and surgery; what hygiene has done for the prevention of disease and the lengthening of human life; the wonderful difference in the care which is given the sick and suffering to-day and that of half a century ago. While the latter change has taken place with the knowledge, with the approval and helpfulness of the medical profession as a whole, and while large figures should be placed upon the credit side of the ledger for them, yet the credit does not belong to them alone.

The greater part of the progress in the care and management of the sick has been mainly due to the efforts of nurses themselves.

But the medical profession have appreciated the fact that the better the nursing the more likely would their own efforts be to result in success. The nurse furnishes greater relief and with that comes greater means of recovery. The care which is given the sick and suffering to-day was only a dream of the medical profession and others of half a century ago. But they said, We will start a nucleus and create a thought, we will advance a sentiment which we trust will grow and we will do this while we are practically digging graves for ourselves, for we can never expect to see the perfection in the care of the sick in our day that we trust will come in later years. While the art of nursing has realized a long and cherished hope, yet any of us at this time could say the same as was said by others fifty years ago. I have in mind the help and benefit the trained nurse would be to every home where want and poverty is fostered in all its forms. If the trained nurse is so helpful and now considered indispensable in the homes where wealth abounds and where it furnishes every comfort that money can bring, how much greater value would the same services have in homes where there is so little to help the sufferer, homes where poverty, want and 'sickness preside over the births of the little ones, rock their wretched cradles, and, too often, pile the earth above their little graves. In the days which are to be we hope the nurse will be found in the poor little home as well as in the palace.

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*Read before the Eighth District Branch of the Medical Society of the State of New York held at Buffalo, September 25 and 26, 1907.

The public should take recognizance of this, for nowhere is a nation's humanity and wisdom better shown than in the care they give to their helpless and dependent children. Much has been written and spoken in later years about the duty of the medical profession toward each other, the duty of the medical profession to the public, the duty of the public toward the medical profession, but so far as the speaker has been able to learn very little has ever been said either by voice or pen about the best help in the sick room that the medical profession ever had, that is, the trained nurse. However, when giving the history of any important case, after the age and diagnosis are given, this statement has often been made: "The patient was at once placed under the care of a competent nurse." This of itself speaks volumes for the usefulness of nurses in every important and critical case. When the trained nurse entered upon her duties she became the ally of the physician. Their boats, so to speak, were seen floating along side by side, sometimes in a very quiet sea where we could point out to-day the course which would naturally be followed on the morrow, at other times in a tempestuous sea where anxiety as to what the result will be overshadows all other considerations, where the energies of both physician and nurse are taxed to the utmost, and where we would be unable to point out one hour the course to be followed the next. But both work with the same object in view—the saving of a human life, and where that is impossible the doing of all that can be done by art until the patient is released by death. The aim of the two professions is one, so that all that touches one will find its prototype in the other.

Something has been said about the overtrained nurse. That to the writer seems a misnomer. It would be just as impossible to have a nurse overtrained as it would be to have a physician or a mechanic over-educated. It may be claimed that the nurse at times believes her knowledge superior to that of the physician and takes upon herself the treatment of the case, ignoring the physician's prescription. This unpleasant state of affairs is by no means to be looked upon as indicating overtraining, but rather undertraining, and the writer finds that such an action is by no means as frequent among trained nurses as among those who do not profess to any training whatever. While the nurse has been regarded with great respect and admiration by most people there has been opposition and deep contempt by a few.

The organization of special work in the line of nursing having for its object the saving of life and the relief of suffering was, not so very long ago, entirely new, and at no distant period unknown.

Something less than fifty years ago a distinguished surgeon made the remark that it was a "myth," that it was "a work of no significance," that if good was done it was not known. As would be expected, its novelty at first brought out some criticism, especially by those who oppose everything. It was claimed that there was no necessity for such a work, and some predicted its early demise. How that has been verified the present standing of nurses as a class in every community will answer. When we contemplate the great good done we feel a pardonable pride in the wisdom shown by Florence Nightingale and others in days gone by. Forty-seven years ago a training school for nurses was founded by Miss Nightingale in London. Some years later that school was taken as a model by the Bellevue Hospital Training School.

I do not speak as the nurse's champion, for she needs none. But her helpfulness to the medical profession has as a general thing been as unbroken upon her part as it has been appreciated and precious upon ours. Unceasing in her efforts to make the affliction of others more easily borne, anxious when nearly all the world is sleeping, she is watchful and careful to make the treatment a success. The admirable methods of most nurses produce results not otherwise obtainable. They can often see what to the ordinary observer would be no departure from health.

Relief of pain and anxiety, better sleep, more and better nourishment come to the patient, and he is in this way carried through critical periods of disease where he might otherwise succumb.

The good service rendered by nurses cannot be put into figures. The memories of many a sufferer are not confined merely to the sick room, but mingled with recollections of heroic actions, self sacrifice and patience on the part of the nurse. It is a leaf in memory to which the sufferer often loves to turn. The nurse brings the morning light during the dark hours of midnight to many hearts and leaves the impression that, taking the years together, there is, after all, no more night than day. When we hear from the living lips of those whose health has been restored and when we hear from the dying lips of those whose sufferings have been alleviated stories of the nurse's care and patience we must look upon her life as a life of great successes. She stands at the gates of life as humanity enters the world and at the gates of death far oftener than the medical attendant as humanity passes out of the world. If such a life is worthy only of a sneer, then it would be very difficult to say what life, in the nature of human progress and civilization, is worthy of commendation.

What the next twenty-five years will bring to the organizations of nurses I will not undertake to tell, but look backward half a century and see what it was then. Now look and see what it is at present. Look forward and imagine if you can what it will be in years to come. New avenues of work and fresh opportunities are constantly opening up for the trained nurse. One of the great transatlantic lines has recently added the trained nurse to the medical department of its vessels. The trained nurse will soon become as indispensable to the best lines as the ship surgeon now is.

Even should we be inclined to flatter ourselves that the medical profession have taken the lead it must not be supposed that the nursing profession have been far behind.

The speaker wishes that the public were as well able as the medical profession to see how important and necessary to them is every step taken for the betterment of the trained nurse. And I also sincerely trust that the time is not distant when the well-to-do will feel that no organizations or institutions looking to the benefit of mankind are more worthy of financial aid than the one now doing such a worthy work. Everything the medical profession are able to do to render the profession of nursing still more worthy of its name will be time and labor well bestowed. The nurse has over and over again proved herself to be the medical attendant's best helper. And so we take the nurse warmly by the hand not to say good-by, but to say that we welcome you and have long waited and wished for your coming. Our appreciation is hard to express in words, but we wish to assure you that it is most sincere and lasting. And from our present standpoint we will ever keep a warm place in our memory for the organization which has done so much to aid us in our efforts for the relief of suffering humanity.

EXAMINATION questions used by the Nurses' Examining Board of the District of Columbia, October, 1907.

ANATOMY, PHYSIOLOGY AND HYGIENE.

(1) Name organs of digestion.
(2) Locate ileum and ilium.
(3) What is the pleura, periosteum, peritoneum, tympanum and cornea?
(4) What is the medulla oblongata?

(5) Name largest gland and state its chief function.
(6) Describe circulation in a general way, or the process of digestion.
(7) How are waste products eliminated from the body?
(8) State function of red corpuscles.
(9) What are the hygienic essentials of a sick-room?
(10) How would you dispose of sputum?

MEDICAL NURSING AND EMERGENCIES.

(1) Mention three kinds of enemata, and distinction in the giving of each.
(2) Give symptoms of hemorrhage in typhoid fever, and state care of patient until the arrival of physician.
(3) State points to be noted in taking the pulse and respiration.
(4) What immediate treatment should be given in severe burns and scalds while awaiting the arrival of physician?
(5) What stimulation can be given by a nurse in the above case for shock?
(6) State how long patient should be left in hot pack and how are they given.
(7) What methods should be used for the prevention of infection in fevers?
(8) What care should be exercised in nasal tube feeding?
(9) What treatment should be given for morphine poisoning?
(10) How would you treat a fainting person?

MATERIA MEDICA AND DIETETICS.

(1) How may materia medica be defined?
(2) What is opium; from what is it obtained; give its two principal alkaloids and their average doses?
(3) What are emetics; what two ways do they act and give example of each?
(4) What are infusions?
 b. What are tinctures?
 c. What are suppositories?
(5) By what methods may drugs be administered?
(6) What are the different kinds of food stuffs, and give examples?
(7) What is a proteid?
(8) Describe the action of the gastric juice on food.
(9) How would you cook rolled oats or wheat?
(10) How would you make beef broth and beef juice?

SURGERY AND CONTAGION.

(1) a. How would you select and prepare the the room for an abdominal section in a private house?
 b. Give in detail the supplies needed.
 c. How would you sterilize supplies and instruments?
 d. How would you prepare the patient?
(2) How would you prepare normal salt-solution for hypodermoclysis?
(3) If you knew that a patient was to take ether, how would you prepare him in the absence of any orders from the physician?
(4) How would you treat post-operative hemorrhage until the arrival of the physician?
(5) What are the indications of shock? Give treatment.
(6) What emergencies may arise during or after the administration of a general anæsthetic? How would you meet or prevent them?
(7) What care would you take of your health and person while in attendance on a contagious case?
(8) What steps would you take to disinfect a room in the country after a contagious disease?
(9) What must be done to the patient after a contagious disease before he can safely come in contact with uninfected people?
(10) What solutions are best for disinfecting clothes?

OBSTETRICS AND GYNECOLOGY.

(1) What is the duration of pregnancy, and how do you determine the probable date of confinement?
(2) What preparation do you consider necessary for an approaching confinement, and what necessary preparations would you make immediately preceding labor?
(3) How many stages of labor are there? State when each begins and ends.
(4) What care would you give the nipples before and after confinement?
(5) What is colostrum and what is its function? What is the function of the amniotic fluid?
(6) State in detail the care you would give an infant for the first twenty-four hours after birth.
(7) Are there any diseases from which you would not go to an obstetrical case? If so, name some of them.
(8) What care would you give your hands and all articles used for patients in puerperium?
(9) Name some of the emergencies that sometimes arise during the puerperal state; and what would be a nurse's duty under such conditions?
(10) How would you prepare a patient for a gynecologic examination?

CORRESPONDENCE.

Letters intended for publication must always be accompanied by the name and address of the author, which will not be published without the author's consent. We have but one place for anonymous communications, viz., the waste-basket.

CONCERNING THE THREE YEAR COURSE.

Editor of the Gazette:

I am enclosing a list of the things that the pupils of our High School are to pass on before they can enter as pupils from the Grammar School. I am told that the schools in some States have higher examinations than this, and superintendents of training schools for nurses are asking graduates from a high school to remain four years in a hospital after graduating from this course. Preposterous!

I am positive that at a meeting of the American Superintendents' Association, which I attended some years ago, I met a lady who has the distinction of being superintendent of one of Pennsylvania's large general hospitals, and who could not answer the ninth and tenth questions in geography unless she looked them up. From her own statement she had never been farther away than Atlantic City and Pittsburg. Whether she is still maintaining the dignity of that school now or not I know not, but I am sure that any graduate of our high school could give her pointers. I am a graduate of the two years' course and, while I hope I am broad-minded enough to accept the modern hospital as the best place for a training school, I must confess that I am not a strenuous advocate of the three and four years' courses, except for a Johns Hopkins or a Bellevue, where the advantages of other things are offered besides the routine of hospital work.

Some years ago I had charge of a university hospital in a small town in the Middle West. I organized the school on a three years' basis and regretted it afterwards, for the hospital could not afford a graduate nurse for the wards, and I was superintendent, bookkeeper, housekeeper and superintendent of nurses—sometimes door boy. I still have a feeling that a two years' course would have given me more nurses and I would have been able to have done better work. The university offered the nurses the benefit of the lectures in all the branches of the school; but, what time did a nurse have to go over the campus to a two hours' lecture on jurisprudence? Very little, I assure the readers of this letter; and besides if they had two hours it had to be taken for rest.

I left that hospital, tired, discouraged and with the feeling that I would never undertake another position of its kind.

Later I went to Colorado and organized another school on a three years' basis. I also gave the night nurses two hours off duty at night, and a doctor who had graduated from an eastern college criticised my management because I gave nurses two hours off duty at night. He had never heard of such a thing. Neither had I, but I was willing to experiment with human beings rather than kill them, and then throw a lot of flowers over them and have a big funeral. These things are necessary of course, but I prefer to have my flowers here. However, the end justifies the means, and I am told—although I left them four years ago—that the system is still in vogue.

I hope my readers will pardon me if I have related personal experiences, rather than give them a long forecast of how the change from three years to two will affect the hospital. I know how the three years' course is affecting the hospitals at this writing—there are no pupils, and none in sight. If this continues the western hospital will have to go way back and sit down, and wait for some of the nurses to raise families to supply the want.

E. S. E.

Accompanying this letter E. S. E. sends a list of examination questions for admission to the high school of her city. The standard set by the examination would seem quite high enough for any girl who is ready in other respects to begin her training for the work of nursing. The ninth and tenth questions in geography, referred to in the letter, are:

9. Name the capital and give the principal products of Idaho. Compare its area with that of Ohio.

10. Select the largest four cities in Ohio and account for their growth.

No one will dispute the desirability of a high school course for those who are capable of finishing it with credit to themselves and the school. Our correspondent, however, raises the very timely question whether the training schools are right in refusing to admit those girls who, while qualified to enter the high school, find it necessary or preferable to omit the high school course and begin active preparations to earn a livelihood. Furthermore, is it "preposterous" to detain a high school graduate three or four years in the training school before she can be trusted to begin her work for herself as a nurse?

The Two Year Course.

Editor of the Gazette.

Dear Sir: Will you kindly, through the next number of the Gazette, publish a list of the hospitals in or near New York City which give a two year course of training to women desiring to enter the field of nursing.

Thanking you for your trouble in advance, I am
Yours truly,
A Subscriber.

Troy, N. Y.

Answer.—So far as we are able to ascertain, two hospitals in New York City are now giving the two year course. They are the New York and Roosevelt Hospital.

THE COLORADO STATE TRAINED NURSES' ASSOCIATION.

The semi-annual meeting of the Colorado State Trained Nurses' Association was held in Pueblo, Colorado, at Minnequa Club, on October 10. The meeting was devoted more to pleasure than business, as is usually the case with our semi-annual meeting. The reports of our delegates to the Associated Alumnæ and to the Colorado Federation of Women's Clubs were read. The meeting closed with a reception at the residence of Dr. Corwin.

The annual meeting and election of officers will be held in Denver on the second Thursday in May, 1908.

Mrs. Cora L. Chamberlin, *Secretary.*

GRADUATE NURSES' ASSOCIATION OF CONNECTICUT.

The regular quarterly meeting of the Graduate Nurses' Association was held at Grace Hospital, New Haven, Conn., on Wednesday, November 6, at 2.30 P.M. The programme was an unusually interesting one, its chief feature being an address by Miss Jane Hitchcock, R.N., of the Henry Street Settlement, New York. Miss Hitchcock spoke on the law of registration for nurses, and her address was followed by a question box in charge of Miss Wilkinson, of Hartford. The question box disclosed many of the current misunderstandings regarding the work of the State Association and the Board of Examination and Registration and their relations; these were explained in the discussion led by Miss Wilkinson.

The next meeting will be held in Danbury in February.

Miss Albaugh, the president, entertained the officers at a lunch in honor of Miss Hitchcock.

SEVENTH ANNUAL MEETING OF THE GRADUATE NURSES' ASSOCIATION OF VIRGINIA.

Reported for the Gazette.

The opening session was held in the Auditorium of the Y. M. C. A., Staunton, Va., on Tuesday, October 1, at 8.30 P.M., and the exercises were opened by prayer by the Rev. Dr. Fraser of the Baptist Church. An address of welcome was made by Hon. W. H. Landis, Mayor of the city, and in the absence of both the President, Miss Brydon, and the Honorary President, Miss Cabaniss, the Treasurer, Miss Besley, of the University Hospital, Charlottesville, made a very happy response. These addresses were followed by a very practical and deeply interesting paper on Tuberculosis Work by Miss Helen La Motte, of the District Nurse Corps of Baltimore, Md., and the report of Miss Nannie J. Minor, of the Nurses' Settlement, Richmond, Va., who is Chairman of the Anti-Tuberculosis Work for the State. These papers called forth animated discussion from citizens and physicians on the need of anti-tuberculosis work in Staunton and elsewhere in Virgina.

The business sessions were held in the hall of the Elks Lodge on Wednesday morning and afternoon and Thursday morning. The 1st Vice-President, Miss Ruth Robertson, presiding. Miss Annie Gulley, of the Nurses' Settlement, Richmond, read an admirable paper on District Nursing, and Miss Ruth Robertson, Supt. of St. Luke's Hospital, Richmond, one full of practical suggestion on "The Responsibility of the Superintendent to the Pupils of Her Training School." Miss A. F. Patté, of Mt. Vernon, N. Y., the well-known dietitian and publisher, read a paper on "The Importance of, and Necessity for, the Study of Dietetics by the Trained Nurse." The closing paper was a "Plea for the Endowment Fund for the Chair of Hospital Economics" at the Columbia University, New York City, by Miss Cabaniss, Chairman of this Fund for Virginia. These papers were followed by harmonious and interesting discussions of the subjects of such vital importance to the nursing profession. The most important business transacted was the decision to increase the salary of the graduate nurse in Virgina from $21 per week to $25, and to $30 for contagious cases; this resolution was passed unanimously and takes effect at once. The officers for the following year are named in the Gazette Directory.

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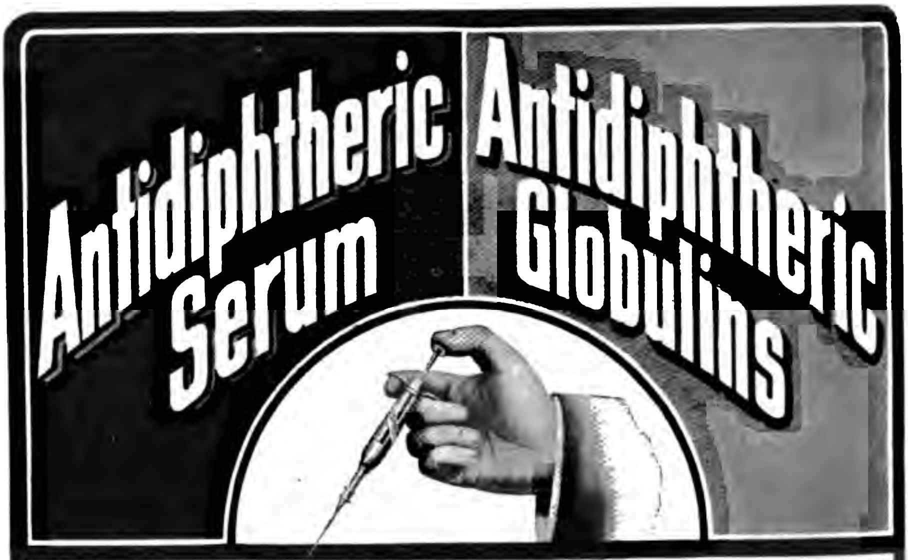

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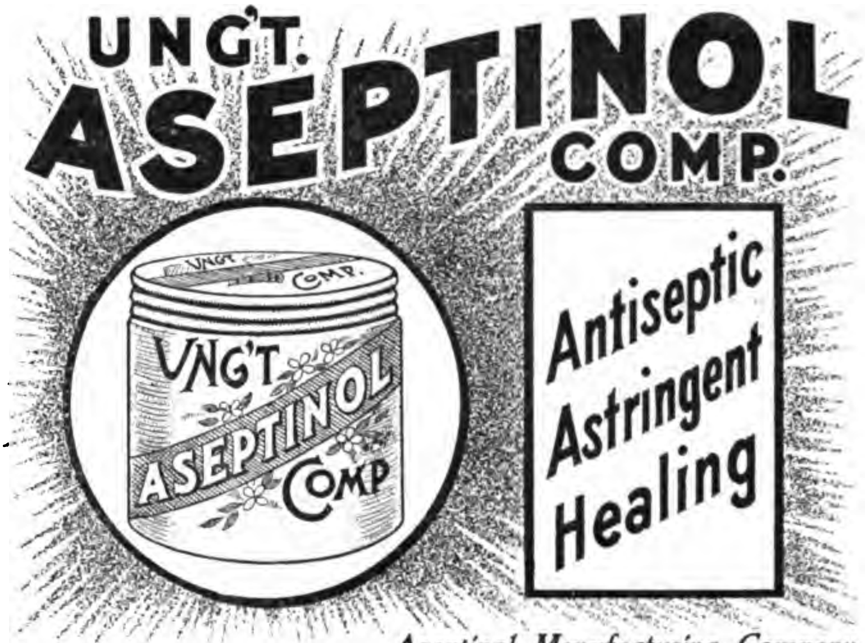

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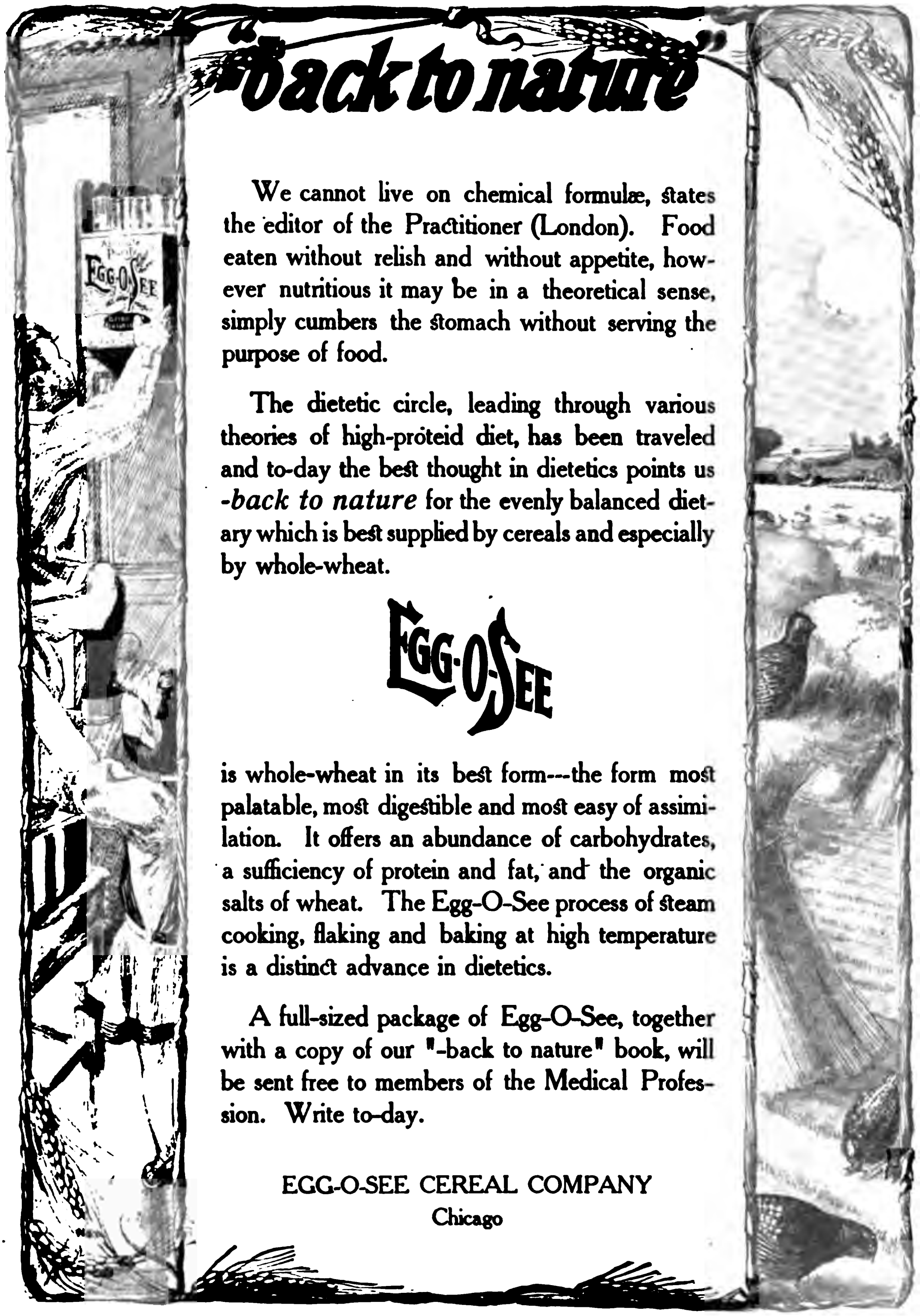

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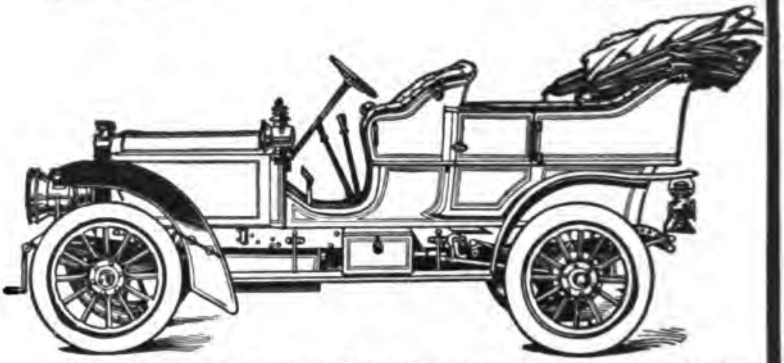

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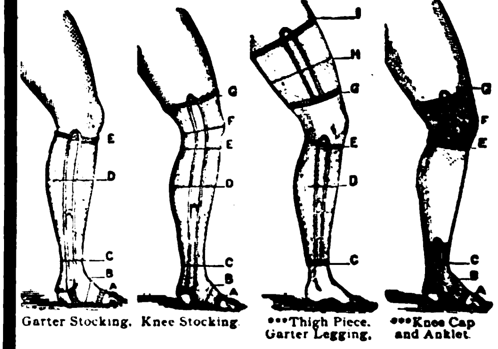

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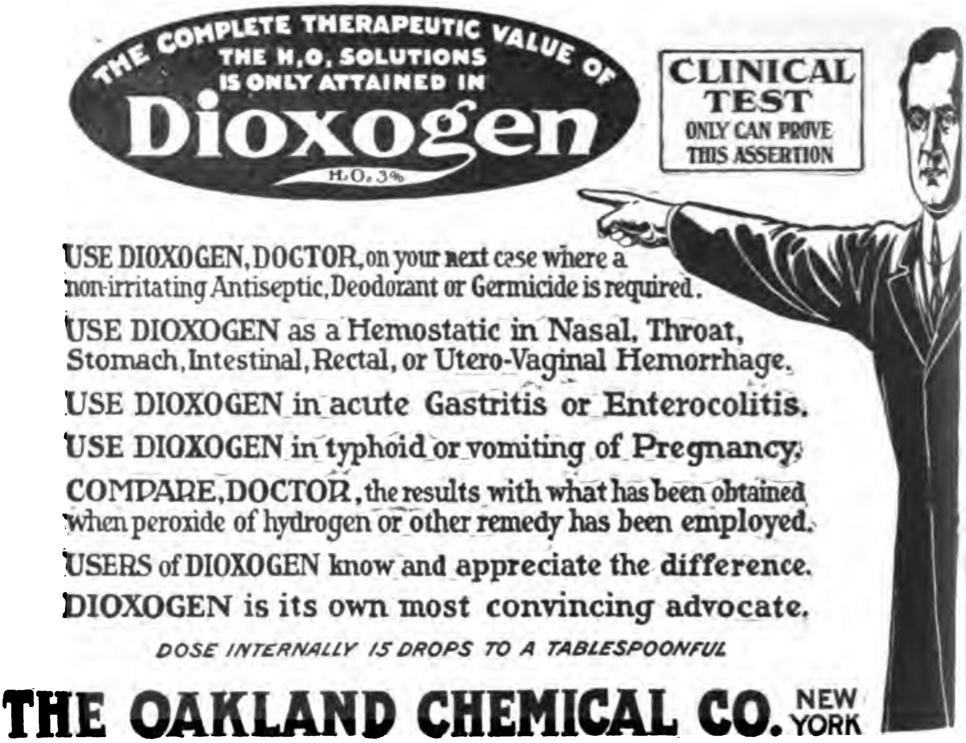

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No habit is ever acquired by its use, nor does repeated administration lessen its primary effects. We thus possess in Phenalgin a valuable addition to our pain-relieving armamentarium. It may be useful if we now consider the dosage of and indications for this ideal analgesic.

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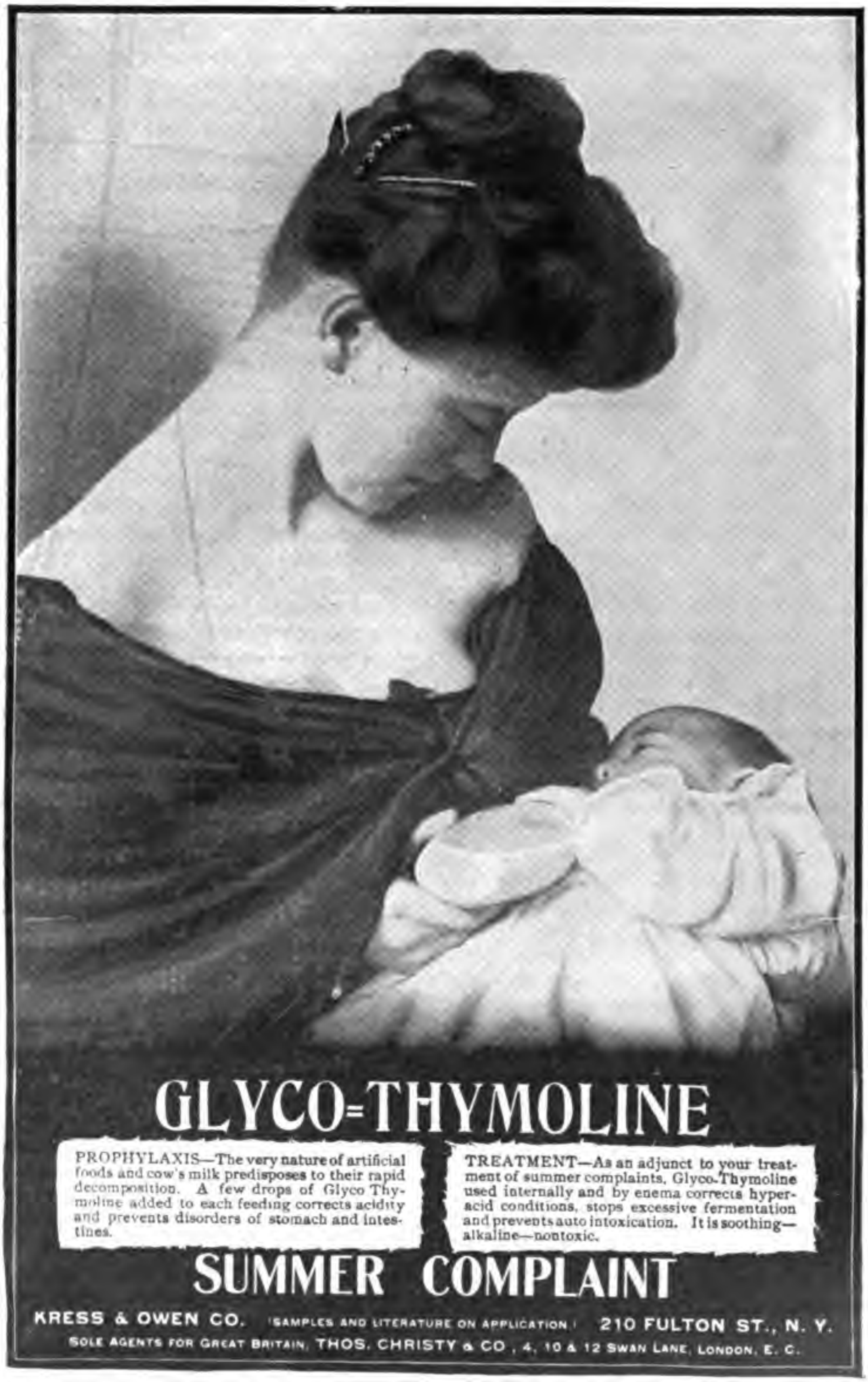
Some indications for its use will suggest themselves to our readers, but we may specially mention dysmenorrhea (here it often acts like a charm), headache, sciatica, neuralgia and rheumatic pains. It is also useful in many cases of malaria, especially when given in combination with the sulphate of quinine. Cases of influenza are often greatly benefited by the administration of Phenalgin. In the latter disease it may be combined with salicylate of soda. In fact Phenalgin is compatible with such drugs as quinine, the salicylates, salol, codeine, the bromides, caffeine and salts of lithia. The manufacturers now put up a number of such combinations, *e.g.*, Phenalgin with quinine and camphor and with cascara sagrada.—*The Medical Times*, London, Nov. 2 1907.



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PROPHYLAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.

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THE USE AND ABUSE OF CARDIAC STIMULANTS.

HARE (*Therapeutic Gazette*) discusses the common disregard of certain essential details concerning the action of cardiac stimulants. Physicians themselves probably suffer more as a class from this abuse. The "tired heart" commonly existing among physicians usually receives at their hand excessive doses of digitalis instead of the indicated rest. Strong coffee and other adjuncts are also self-prescribed, causing an increase of the cardiac disorder. Another erroneous use of cardiac stimulants is their employment in a state of undue excitation, in which condition cardiac sedatives are needed. Not uncommonly cardiac irregularity calls for small doses of aconite or veratrum viride. Again a patient with feeble heart receives digitalis, when in reality the cause of the feebleness lies in a degenerated heart muscle, which is incapable of gaining any advantage from this drug. In fact by contracting a blood vessel digitalis increases the labor of the heart. Under these circumstances strophanthus or cactus, the action of which is cardiac, but slightly if at all vascular, should be used. This is one of the numerous instances in which cactus is advantageously used. The expressions of the profession on Cereus Grandiflorus and Cactine Pillets, which truly presents the therapeutic properties of the drug in the highest form, are very encouraging. It seems that any drug that offers assistance in cardiac complications, and especially if it is devoid of the objectionable features of stronger cardiac remedies, should command the earnest attention of the bedside practitioner.

THE SERUM TREATMENT OF EXOPHTHALMIC GOITRE.

HARRIET C. B. ALEXANDER discusses the subject (*The American Practitioner and News,* August, 1907) and reports thirteen cases. Four principal theories of the disease have been advanced: (1) that it is due to disease of the sympathetic nervous system; (2) that the seat of the malady is the medulla oblongata; (3) that it is primarily a disease of the thyreoid gland; and (4) that it is a neurosis.

Modern therapeutic measures have been largely based on the "thyreoid" theory. The results of partial strumectomy indicate that the successful removal of a portion of the thyreoid gland can lead to cure or to definite amelioration of the condition. On the theory that the thyreoid secretion normally neutralizes certain general metabolic poisons in the body, Moebius and others conceived of treating cases of exophthalmic goitre, in which there is presumably an excess of thyreoid secretion in the body, by introducing subcutaneously, or by the mouth, the serum of thyreoidectomized animals. It was hoped that the non-neutralized general metabolic poisons of such animals would nullify the toxic effect of the excessive thyreoid secretion. As to the treatment, experience has shown the great importance of general measures: complete rest for a time, fresh air, careful diet, mild balneotherapy, etc.

The name Thyreoidectin has been given to a preparation obtained under aseptic precautions from the blood of animals from which the thyreoid glands have been removed, and which is exhibited as a reddish-brown powder contained in capsules, usually five grains each. Carefully conducted clinical trials seem to show that Thyreoidectin can be depended upon to control the characteristic symptoms of exophthalmic goitre. In most cases the patient experiences much relief from the restlessness, tremors, insomnia and other nervous symptoms so frequently present, and a gradual lessening of the frequency of the pulse rate, decrease in the size of the glands, and a diminution of the exophthalmos, with an increase of weight and a much better condition generally. The dose of Thyreoidectin seems to be one or more capsules after each meal, according to the judgment of the physician and the reaction of the patient.

In nine of the author's thirteen cases the size of the gland was materially reduced, and in every case improvement was observed with respect to one or more of the symptoms.

THE SCIENTIST AND THE BACILLI.

A CAPITAL story is being told of a famous scientific man who is known all over the world for his researches into bacteria. The other day at an afternoon party he was given by his hostess some of the first strawberries of the year, and it was noticed that before he ate them he dipped each strawberry most carefully into a tumbler of water. His hostess asked him why he did this, and he replied that it was on account of the microbes, of which there are about two millions on each fruit. After he had eaten half a dozen strawberries he felt thirsty, and without thinking what he was doing he drank the water in which he had been washing the fruit. His hostess tried to stop him, but it was too late. "Oh, doctor," she exclaimed, "you have swallowed twelve million microbes." "Good heavens, so I have," said the scientist, and then added philosophically, after a pause, "Well, after all, it does not matter much."

TYPHOID CONVALESCENTS

The dietary in Typhoid is conceded by most authorities as of far greater importance than any, strictly speaking, therapeutic measures.

The seat of the principal lesions in Typhoid being the small intestine where nutriment first enters the blood stream, it is of the utmost need that sustenance which is easily digested, quickly absorbed and which affords true pabulum for the tissues be administered.

Milk has had first place in the practice of many physicians, but even milk is often not easy of digestion in Typhoid cases. The addition of grape-nuts, made of wheat and barley (malted) has proven to be almost ideal as a dietary for these cases.

In making grape-nuts, the two flours (wheat and barley) are combined with a little yeast, salt and pure water. It is first made into loaves which are baked at about 385° Fahr., then sliced and the slices further baked (or toasted) at a low heat (200° Fahr.) for 12 to 16 hours. This secures an absolutely sterile food, and one in which the carbohydrates as well as proteids, are in a soluble state.

Grape-Nuts contains the elemental salts, phosphates which are necessary to cell elaboration, and acts as a "cereal" preparation to "modify" and make more digestible the milk or cream with which it is usually eaten.

Physicians throughout the country are coming to realize that grape-nuts is not just "a cereal food," but that, from its ingredients and processes of manufacture, is in a class by itself. It contains practically all there is in wheat and barley; good bread (ordinary toast) contains only about one-half the protein; two-thirds the carbohydrates and much less of the phosphates.

Analyses, literature and a liberal box of samples will be sent by prepaid express to any physician who will send his name and address to

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RELIEF IN RHEUMATOID CONDITIONS.

Dr. Pettingill, of New York City, under the head of "Intestinal Antisepsis," reports some excellent experiences, from which the following is selected:

"Every physician knows full well the advantages to be derived from the use of antikamnia in very many diseases, but a number of them are still lacking a knowledge of the fact that antikamnia in combination with various remedies has a peculiarly happy effect. Particularly is this the case when combined with salol. Salol is a most valuable remedy in many affections; and its usefulness seems to be enhanced by combining it with antikamnia. The rheumatoid conditions so often seen in various manifestations are wonderfully relieved by the use of this combination. After fevers, inflammation, etc., there frequently remain various painful and annoying conditions which may continue, namely: the severe headaches which occur after meningitis, a 'stitch in the side' following pleurisy, the precordial pain of pericarditis and painful stiffness of the joints which remain after a rheumatic attack—all these conditions are relieved by this combination called 'Antikamnia and Salol Tablets,' containing 2½ grs. each of antikamnia and of salol and the dose of which is one or two every two or three hours. They are also recommended highly in the treatment of cases of both acute and chronic cystitis. The pain and burning is relieved to a marked degree. Salol neutralizes the uric acid and clears up the urine. This remedy is a reliable one in the treatment of diarrhœa, entero colitis, dysentery, etc. In dysentery, where there are bloody, slimy discharges, with tormina and tenesmus, a good dose of sulphate of magnesia, followed by two antikamnia and salol tablets every three hours, will give results that are gratifying."

DIETETIC TREATMENT OF CONSTIPATION.

To the use of improper food, or food improperly prepared and too quickly eaten, may be traced most cases of constipation. That the present treatment of functional constipation is almost entirely dietetic and hygienic is an indication that the profession generally attributes the cause of this condition to dietetic errors.

A common error of diet is the eating of food that is too concentrated—this applies particularly to present-day bread and other food-stuffs made from white bolted flour. Modern wheat flour contains practically none of the fiber of the wheat kernel, whereas whole-wheat flour contains enough of this cellulose to stimulate normal peristaltic activity of the intestines. The flaked food, Egg-O-See, not only presents the full food value of whole-wheat but retains a sufficient portion of the cellulose to give that "physiological irritation" necessary to tone the intestinal walls to a proper exercise of their function of removing effete matter from the system. Egg-O-See, fruit and the free drinking of pure water are valuable auxiliaries in restoring these cases of constipation to normal condition.

Send to the Egg-O-See Cereal Co., Chicago, for a trial quantity of this food and free copy of the back to nature book.

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When everything goes badly
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For you and your ambitions
  Or treat you on the square;
When everything's a failure
  And nothing a success—
Just try the simple tonic
  Of self-forgetfulness.

When comrades disappoint you
  And friends betray your trust,
When love and faith and honor
  Seem crumbling into dust,
When joy's a million miles away
  And sorrow's burdens press—
Just try the sovereign remedy,
  Of self-forgetfulness.

When life looks blue before you
  With nothing much ahead,
When you are sorely tempted
  To wish that you were dead,
When of your best you've made the worst
  And of your hopes a mess—
Just try the homely antidote
  Of self-forgetfulness.

From starting in the cradle
  To ending on the shelf
The source of all discomfort
  Is still one's craving self;
So when you want a lasting joy
  That will abide and bless—
Just try the reckless rapture
  Of self-forgetfulness.

—Priscilla Leonard.

To Remove Ear Wax—Wax in the ear may be easily removed if the plug has been softened with peroxide of hydrogen. Follow with a stream of warm sterile water into the ear.—*Nat. Med. Record.*

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Annual meeting in San Francisco, Cal., 1908.

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Annual meeting in Cincinnati, Ohio, May, 1908.

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Next meeting in Toronto, fall of 1908.

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Annual meeting in Denver, second Thursday in May, 1908.

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Next meeting in Danbury, February, 1908.

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Next meeting February 12, 1908.

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Annual meeting in Buffalo, October, 1908.

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Next annual meeting in Danville, 1908.

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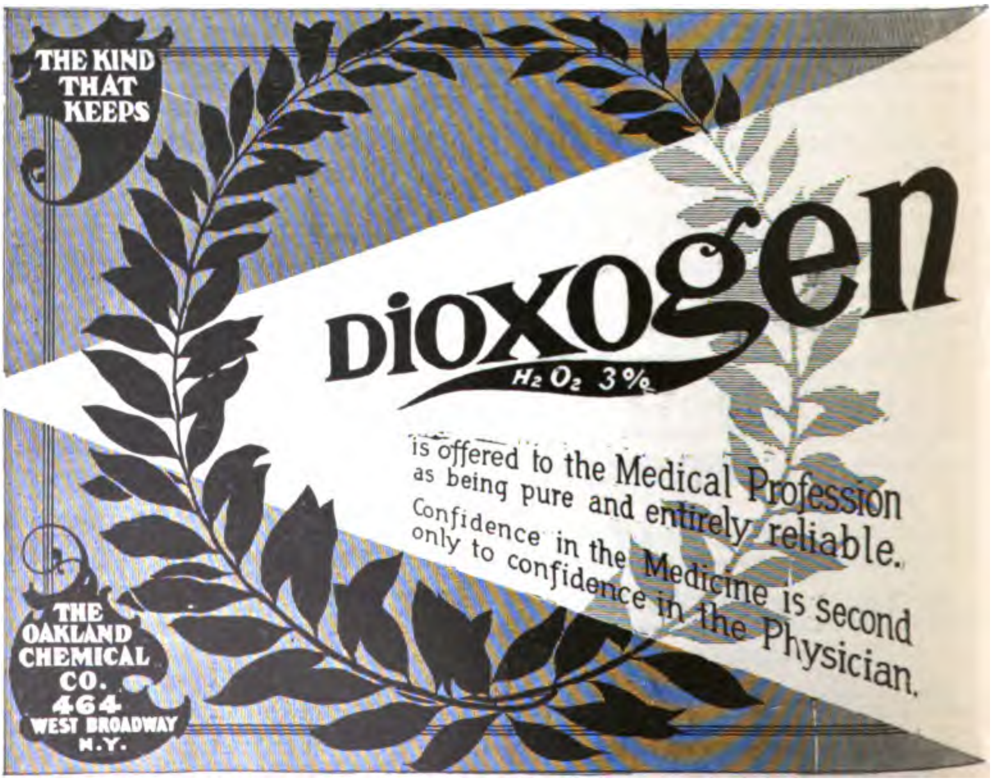

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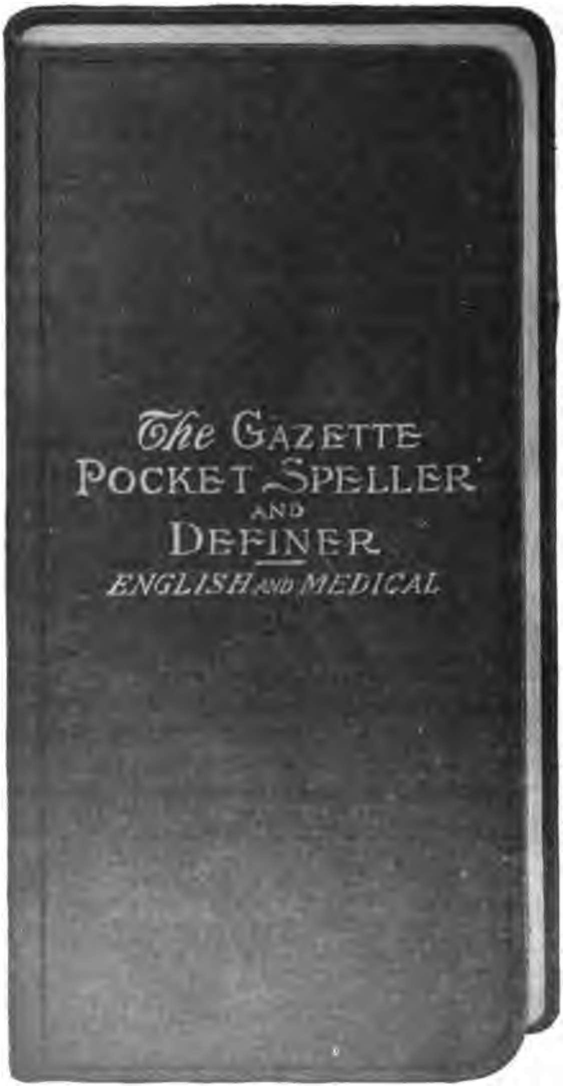

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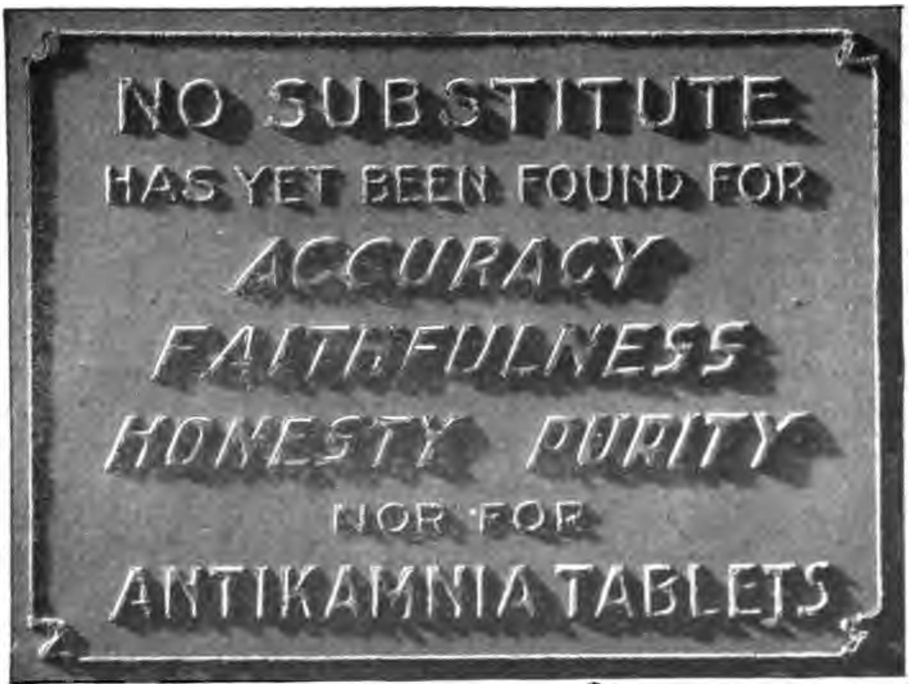

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